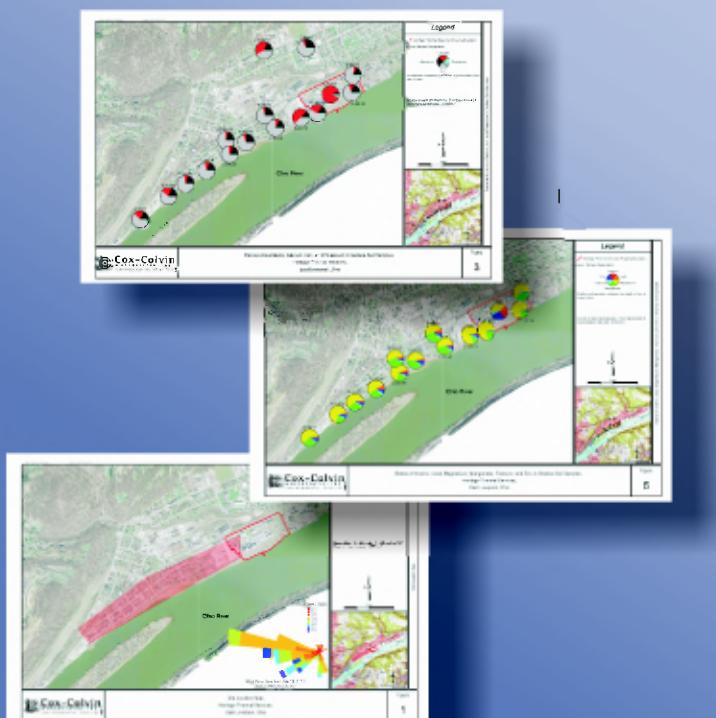


Evaluation of the July 13, 2013 Ash Release at Heritage Thermal Services

Heritage Thermal Services
East Liverpool, Ohio

September 9, 2013



Prepared by:



Prepared for:



Evaluation of the July 13, 2013 Ash Release at Heritage Thermal Services East Liverpool, Ohio

September 9, 2013

Prepared for:

Heritage Thermal Services
1250 St. George Street
East Liverpool, Ohio 43920

Prepared by:

Cox-Colvin & Associates, Inc.
7750 Corporate Blvd.
Plain City, Ohio 43064



Evaluation of the July 13, 2013 Ash Release at Heritage Thermal Services East Liverpool, Ohio

September 9, 2013

Prepared for:

Mr. John Avdellas
Heritage Thermal Services
1250 St. George Street
East Liverpool, Ohio 43920

Prepared by:



Craig Cox, CPG
Principal Scientist



*Evaluation of the July 13, 2013 Ash Release at
Heritage Thermal Services
East Liverpool, Ohio
September 9, 2013*

Table of Contents

1.0	Introduction	1
2.0	Background	1
3.0	Approach	1
3.1	Data Quality Objectives.....	2
3.2	Conceptual Model.....	2
3.3	Goal of the Study.....	3
3.3.1	Boundaries of the Study.....	3
3.3.2	Analytical Approach.	3
3.3.3	Performance Criteria.	3
3.4	Data Collection Activities.....	4
3.4.1	Ash Sampling	4
3.4.2	Soil Sampling	4
4.0	Evaluation of Results.....	5
4.1	Major Constituent Comparisons.....	5
4.2	Minor Constituent Comparison.....	6
5.0	Conclusions	6
6.0	References	7

Figures

- 1 Site Location Map, Heritage Thermal Services, East Liverpool, Ohio.
- 2 Soil Sample Locations, Heritage Thermal Services, East Liverpool, Ohio.
- 3 Ratios of Aluminum, Calcium, Iron, and Potassium in Surface Soil Samples, Heritage Thermal Services, East Liverpool, Ohio.
- 4 Ratios of Aluminum, Calcium, Iron, and Potassium in Shallow Soil Samples, Heritage Thermal Services, East Liverpool, Ohio.

*Evaluation of the July 13, 2013 Ash Release at
Heritage Thermal Services
East Liverpool, Ohio
September 9, 2013*

Figures (continued)

- 5 Ratios of Arsenic, Lead, Magnesium, Manganese, Titanium, and Zinc in Surface Soil Samples, Heritage Thermal Services, East Liverpool, Ohio.
- 6 Ratios of Arsenic, Lead, Magnesium, Manganese, Titanium, and Zinc in Shallow Soil Samples, Heritage Thermal Services, East Liverpool, Ohio.

Tables

- 1 List of Analytes with TestAmerica Reporting Limits.
- 2 Summary of Analytical Results for Ash and Soil Samples Collected in East Liverpool, Ohio, Heritage Thermal Systems, East Liverpool, Ohio.

Appendices

- A Field Paper Work
- B Laboratory and Validation Reports

I.0 Introduction

The purpose of this document is to present the findings of activities conducted to evaluate the July 13, 2013 release of incinerator ash from the Heritage Thermal Services (HTS) facility located in East Liverpool, Ohio (Figure 1). The work was performed in accordance with a July 24, 2013 assessment work plan prepared by Cox-Colvin & Associates, Inc (Cox-Colvin & Associates, Inc., 2013).

2.0 Background

Heritage Thermal Services, located at 1250 St. George Street, treats hazardous and non-hazardous waste through a rotary kiln incineration process. On Saturday, July 13, 2013, at 1:00 pm during the course of routine incineration operations, a large amount of ash fell from interior walls of the incineration process equipment into an ash-quench water bath. The quenching operation is designed as an integral process for cooling hot slag and ash, however, the volume of ash overwhelmed the ash-quench system. The rapid expansion of steam from quenching resulted in the release of an estimated 700-800 pounds of incinerator ash and steam beyond the property boundary over an estimated 30-second period.

No injuries were reported. HTS immediately stopped operations, initiated cleanup efforts and began a previously scheduled outage. Based on eye-witness accounts and information provided by HTS personnel, the ash release was carried by the wind less than a mile to the southwest of the plant, paralleling the Ohio River. The ash was deposited as a thin coating of rust-color, powdery material on cars, streets, and homes near and adjacent to the incinerator facility (Figure 1).

3.0 Approach

The objective of the assessment was to analyze soils, both within and outside of the area of potential ash deposition, for the presence of various elemental analytes. These analytes included metals known to be present in both the ash material and those found in area soils, whether occurring naturally or present through other area activities including motor vehicle traffic, train operations, and other industrial activities.

The approach for evaluating the extent of the ash release relies on the collection, analysis and comparison of the metallic content of the ash, surface soils (potentially affected), and shallow soils, which represent pre-release conditions. Based on the results, discussed later in this

*Evaluation of the July 13, 2013 Ash Release at
Heritage Thermal Services
East Liverpool, Ohio
September 9, 2013*

document, the scope of the activities was sufficient to meet the objective of the assessment. Additional sampling is not anticipated.

The approach presented in the work plan was broken into four parts. These parts included:

- Develop Data Quality Objectives,
- Evaluate the Ash Material,
- Assess Potentially Affected Areas, and
- Assess Background Conditions.

3.1 Data Quality Objectives

Data Quality Objectives (DQOs) were developed in a manner consistent with *Guidance on Systematic Planning Using the Data Quality Objectives Process* (USEPA, 2006) and presented in the work plan. The DQOs identified the situation under study, the goal of the study, the information inputs needed to conduct the study, the boundaries of the study, the analytical approaches to be used, the specific performance or acceptance criteria, and the plan for obtaining data.

3.2 Conceptual Model

Ash released from the incinerator was carried through the air by a northeasterly wind, which was uncharacteristic of the prevailing winds in this area¹. A wind rose constructed from wind data collected by HTS on July 13, 2013 is presented on Figure 1. Deposition of ash material occurred on the ground surface, grass, leaves, swimming pools, and other objects (building, cars, streets, etc.). There was limited ash deposition on the HTS parking lot located immediately southwest of the incinerator. Based on the visual inspection completed by HTS personnel following the event, deposition was spread less than a mile southwest of the plant, diminishing in the downwind direction (Figure 1).

The East Liverpool, Ohio area has a long industrial history which could result in the presence of metal-bearing dust unrelated to the ash release of July 13th, 2013. Current sources of metal-bearing dust in the vicinity of the HTS facility include a metal recycling facility, a cement plant, and an active rail line, all of which lie within the area of evaluation. Residential and commercial/industrial use properties within the study area are identified on Figure 2.

¹Prevailing winds in the area are generally from the west and southwest.

*Evaluation of the July 13, 2013 Ash Release at
Heritage Thermal Services
East Liverpool, Ohio
September 9, 2013*

The released ash is a rust-color, powdery substance. The powder did not appear to adhere to objects once it was deposited and was easily brushed or rinsed from horizontal surfaces. Because of these observed physical characteristics, the material was not expected to penetrate beyond the ground surface. Prior to sampling, the area received some brief rain events, which would have washed the loose materials to the soil.

3.3 Goal of the Study

The goal of the study was to assess the extent of the ash release on the soils of the community adjacent to the HTS facility through an evaluation of the spatial distribution of inorganic constituents in surface soils. Because the ash was suspected to contain many of the same inorganic constituents (primarily metals) occurring naturally in the environmental, it was necessary to characterize the ash, surface soils (potentially affected media), and soils slightly deeper than the surface soil (unaffected media). In addition, soil samples collected upwind of the incident were analyzed to evaluate background conditions.

3.3.1 Boundaries of the Study

The approximate area affected by the release was visually evaluated soon after the event by HTS personnel (Figure 1). The affected area was determined to cover approximately 0.09 square miles. The study area includes the area identified by HTS personnel as well as upwind areas.

3.3.2 Analytical Approach

The ash and soil samples were analyzed for US EPA's Target Analyte List (TAL) metals plus tin and titanium (Table 1). Tin and titanium are contained on RCRA's Appendix IX list of metals, but not included on the TAL metals list. They were added to the list of analytes in this evaluation to make it consistent with RCRA corrective action guidance. Table 1 also lists the Reporting Limits in mg/kg for TestAmerica's North Canton, Ohio laboratory.

3.3.3 Performance Criteria

Samples were analyzed for the TAL metals using SW-846 method 6010B and method 7471A (mercury). Reporting limits from the laboratory were at least as low as the lowest published risk-based screening levels. Fifteen (15) paired surface soil and shallow soil samples were collected and analyzed. In addition, matrix spike (MS) and matrix spike duplicate (MSD) samples were collected for quality assurance purposes. MS/MSD samples are used to evaluate the analytical methodology's performance on a specific matrix type (soil, in this case).

3.4 Data Collection Activities

Consistent with the work plan, data collection activities were completed in a single phase from July 29 through July 30, 2013. Individual activities are discussed below. Field paper work is attached as Appendix A.

3.4.1 Ash Sampling

The purpose of this task was to better understand the inorganic composition of ash released from the incinerator. HTS personnel collected a sample of the ash, placed it in a sample container and provided it to Cox-Colvin for shipping under chain-of-custody for analysis by TestAmerica Laboratories located in North Canton, Ohio.

3.4.2 Soil Sampling

The purpose of this task was to collect samples required to assess the extent of the release. Soil samples from two depths in the potentially affected and unaffected areas in the community were collected for analysis (Figure 2). A representative of Ohio EPA was present to observe soil sampling efforts.

A Topcon GPS unit was used to locate proposed sampling points in the field. When access to a proposed sampling point was limited or unavailable, the point was moved to an accessible location in the immediate area and new coordinates were collected with the GPS. Prior to sampling, a soil probe was used to evaluate the make up of the material to be sampled. All attempts were made to collect only native soils. Pebbles, gravel, and organic material such as grass and roots were excluded from the samples.

A surface soil sample was collected from a one (1) square foot area at each location between the surface and a depth of 2 inches. A slightly deeper (shallow soil) sample was collected between 2 and 3 inches in depth also from the same one (1) square foot area at each location. Each sample was collected using a freshly decontaminated stainless-steel trowel or spoon, placed in labeled laboratory-provided sample containers and shipped in an iced cooler to the laboratory under standard chain-of-custody procedures. Duplicate samples were collected, at the request of the Ohio EPA, at all sample locations and depths for their use.

4.0 Evaluation of Results

Upon receipt, the analytical results were validated by Cox-Colvin personnel and transferred to a site-specific database for further evaluation. The characteristics of the metal-bearing ash, surface and shallow soils was reviewed to assess trends, metal-to-metal ratios, and specific concentration profiles. The lateral and vertical distribution of individual and characteristic metal combinations in ash and soils were used to evaluate if the effect of the release could be discerned, and if so, the extent of the release. The most useful comparisons were those that grouped the major constituents and minor constituents detected in the ash and compared them to similar constituents detected in surface and shallow soil samples. These are discussed in more detail below. The laboratory and validation reports are provided as Appendix B.

The analytical results of the ash and soils are presented in Table 2. To assist in understanding what the detected concentrations mean, state-wide background concentrations are included on the table.

In general, the soil sample results fall within the range of background concentrations detected in Ohio soils. The exceptions are:

- arsenic in one sample (ELSS-06.01);
- copper in nine samples (ELSS-02.01, ELSS-02.03, ELSS-03.01, ELSS-04.01, ELSS-04.03, ELSS-10.01, ELSS-10.03, ELSS-11.01, and ELSS-11.03); and
- manganese in one sample (ELSS-13.01).

There are no background concentration ranges for calcium, magnesium, potassium, sodium, tin, or titanium.

4.1 Major Constituent Comparisons

There are five major constituents present in the ash sample. These constituents (aluminum, calcium, iron, sodium, and potassium) make up nearly 95% of the mass of the constituents analyzed. Four of these constituents (aluminum, calcium, iron, and potassium) were used for the ash-soil comparative study. Sodium was not included in the comparison because it was not detected in any of the soil samples.

Figure 3 represents the four chosen major constituent comparisons for surface soils. Figure 4 represents the four chosen major constituents comparisons for shallow soils. As the figures demonstrate, the ash is predominantly composed of calcium, with lesser amounts of

*Evaluation of the July 13, 2013 Ash Release at
Heritage Thermal Services
East Liverpool, Ohio
September 9, 2013*

aluminum, potassium and iron. The soils samples were composed primarily of iron with lesser amounts of aluminum, calcium, and potassium.

With the exception of three sample locations (ELSS-10, ELSS-11, and ELSS-13), surface and shallow soils appear similar to one another, even when comparing the upwind samples (ELSS-12, ELSS-14, and ELSS-15) to downwind samples. Samples from ELSS-10, ELSS-11, and ELSS-13 contain relatively higher concentrations of calcium.

4.2 Minor Constituent Comparison

There are six minor constituents present in the ash sample. These constituents (arsenic, lead, magnesium, manganese, titanium, and zinc) make up nearly 4% of the mass of detected constituents. This list of constituents was selected because they are present in both ash and soil.

Figure 5 represents the six chosen minor constituent comparisons for surface soils. Figure 6 represents the six chosen minor constituents comparisons for shallow soils. As the figures demonstrate, the portion of the ash made up of the minor constituents predominantly consists of magnesium and zinc, with lesser amounts of arsenic, lead, and titanium. Manganese is present in the ash, but at very low concentrations. The minor constituents found in the soil samples consists primarily of magnesium and manganese, with lesser amounts of arsenic, lead and zinc. Titanium is present in soils, but at concentrations near the analytical limit.

Because the concentrations of these elements in both soil and ash are very low, minor variations in individual elemental concentrations will appear as visible changes in their relative concentrations. This being said, inspection of individual soil sampling locations show a fair degree variability (Figures 5 and 6); however, the comparison of surface and shallow soil demonstrates that the there is little to no change in concentration ratios with depth at each location. Based on the comparison of minor constituents, it does not appear that the effect of the ash release is discernible.

5.0 Conclusions

On July 13, 2013 at 1:00 pm, a release of ash occurred at the HTS facility in East Liverpool, Ohio. Based on eye-witness accounts and information provided by HTS personnel, the ash release was carried by the wind less than a mile to the southwest of the plant, paralleling the Ohio River. The ash was deposited as a thin coating of rust-color, powdery material on cars, streets, and homes near and adjacent to the incinerator facility (Figure 1).

*Evaluation of the July 13, 2013 Ash Release at
Heritage Thermal Services
East Liverpool, Ohio
September 9, 2013*

A sample of ash and fifteen paired surface and shallow soil samples were analyzed for aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, tin, titanium, vanadium, and zinc. The analytical results for surface and shallow soils were compared to state-wide background soil concentrations. These comparisons indicate that the surface and shallow soils are generally consistent with background concentrations.

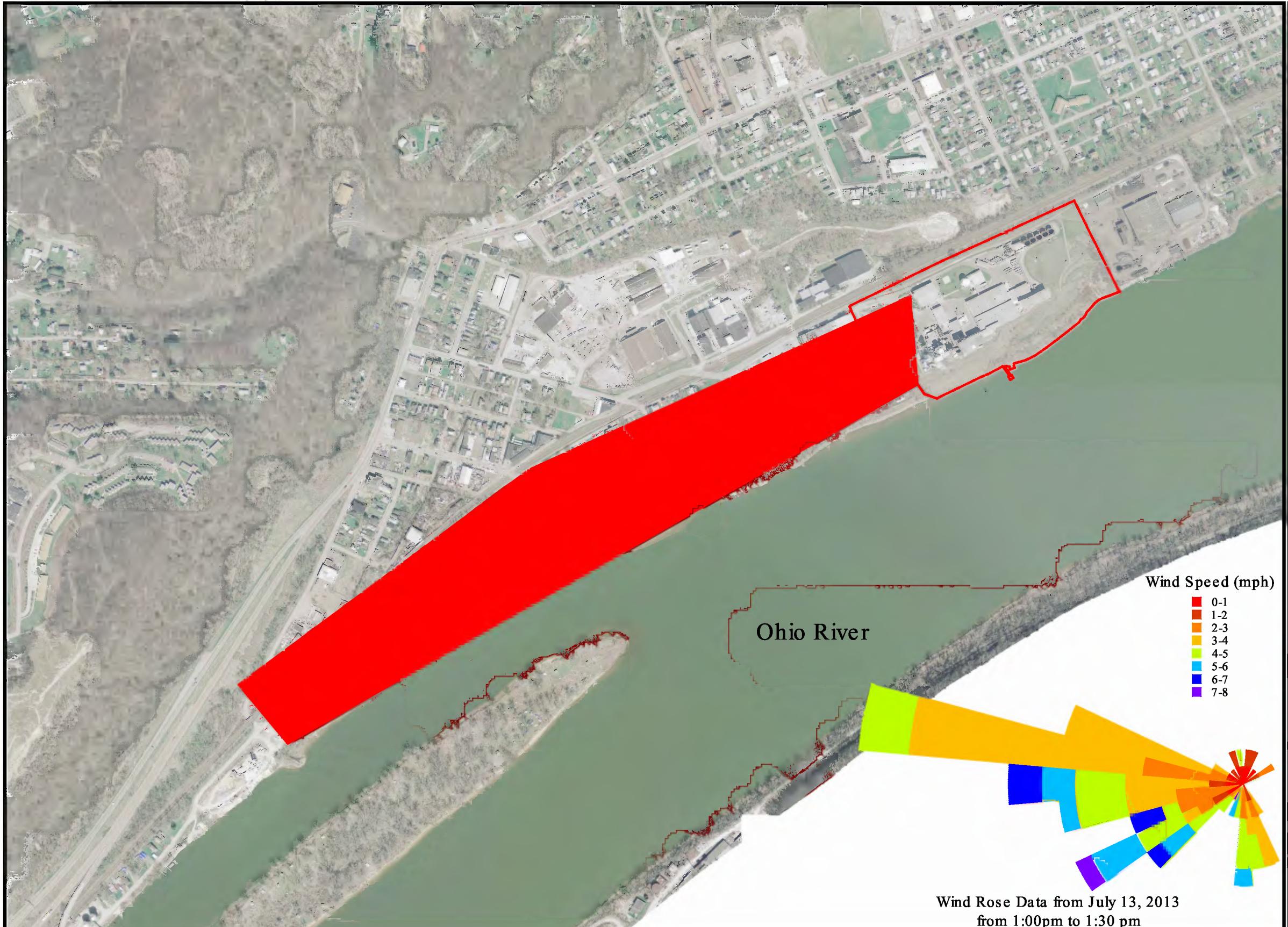
Comparison of major and minor constituents in the ash to those in surface and shallow soil samples indicate that the effect of the release is generally not discernible. There is some indication that the release is discernible at two locations immediately downwind (ELSS-10 and ELSS-13) of the HTS facility; however this indication is based largely on the proximity of the locations to the HTS facility. Based on the results of this study, additional sampling efforts do not appear to be warranted.

6.0 References

- Cox-Colvin & Associates, Inc., 1996. Evaluation of Background Metals Concentrations in Ohio Soils. Unpublished Consultant's Study. June 21, 1996.
- Cox-Colvin & Associates, Inc., 2013. Work Plan to Evaluate the Extent of the Ash Release at Heritage Thermal Services, East Liverpool, Ohio. Unpublished Consultants Report.
- USEPA, 2006. *Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4.* EPA/240/B-06/001. February 2006.

K:\CCA\PROJECTS\Heritage Thermal Systems\East Liverpool\Report of Findings\FINAL\Report of Findings.wpd

Figures



Legend

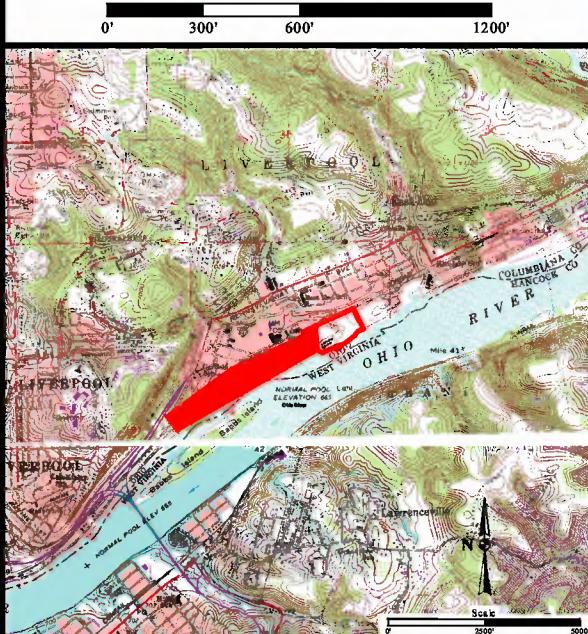
- Heritage Thermal Services Property Boundary
- Affected Area

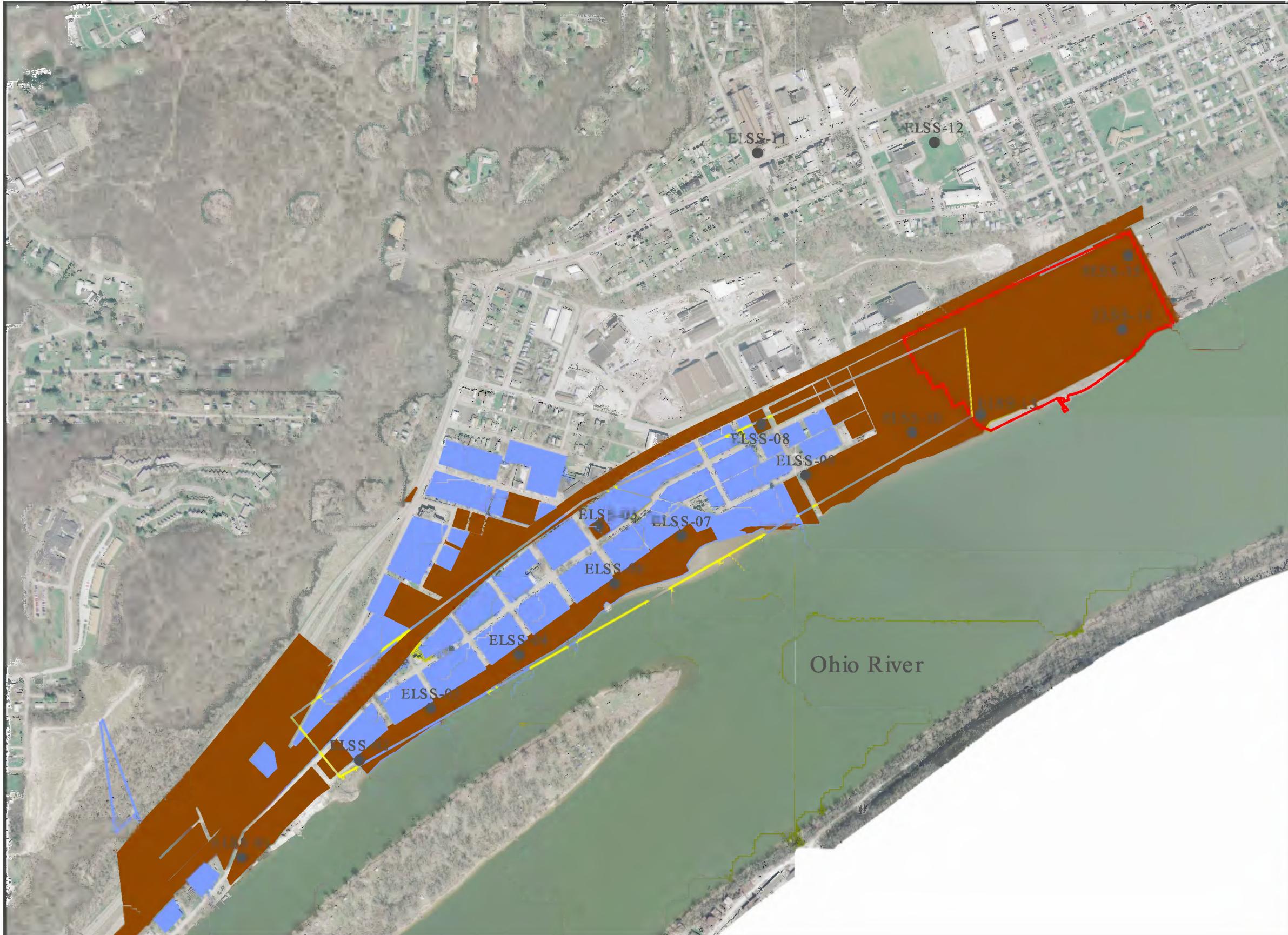
Source of aerial photography: Ohio Department of Administrative Services, 2006/2007

Site Location Map



Scale





Legend

- Heritage Thermal Services Property Boundary
- Soil Sample Location
- Residential Areas
- Commercial/Industrial Areas
- Affected Area

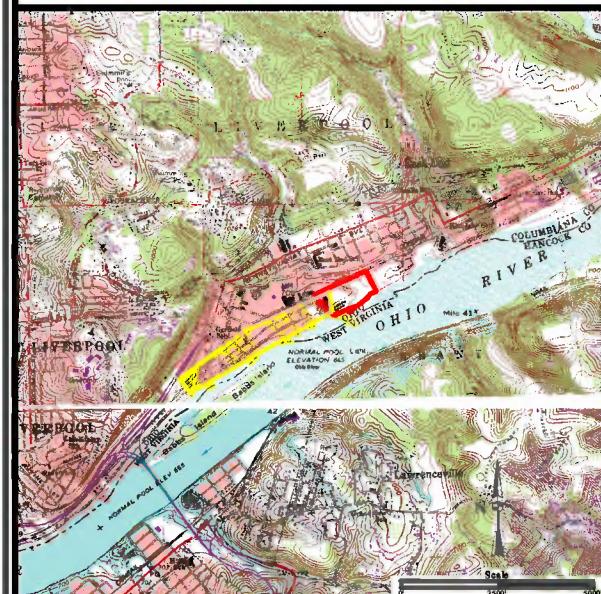
Source of aerial photography: Ohio Department of Administrative Services, 2006/2007

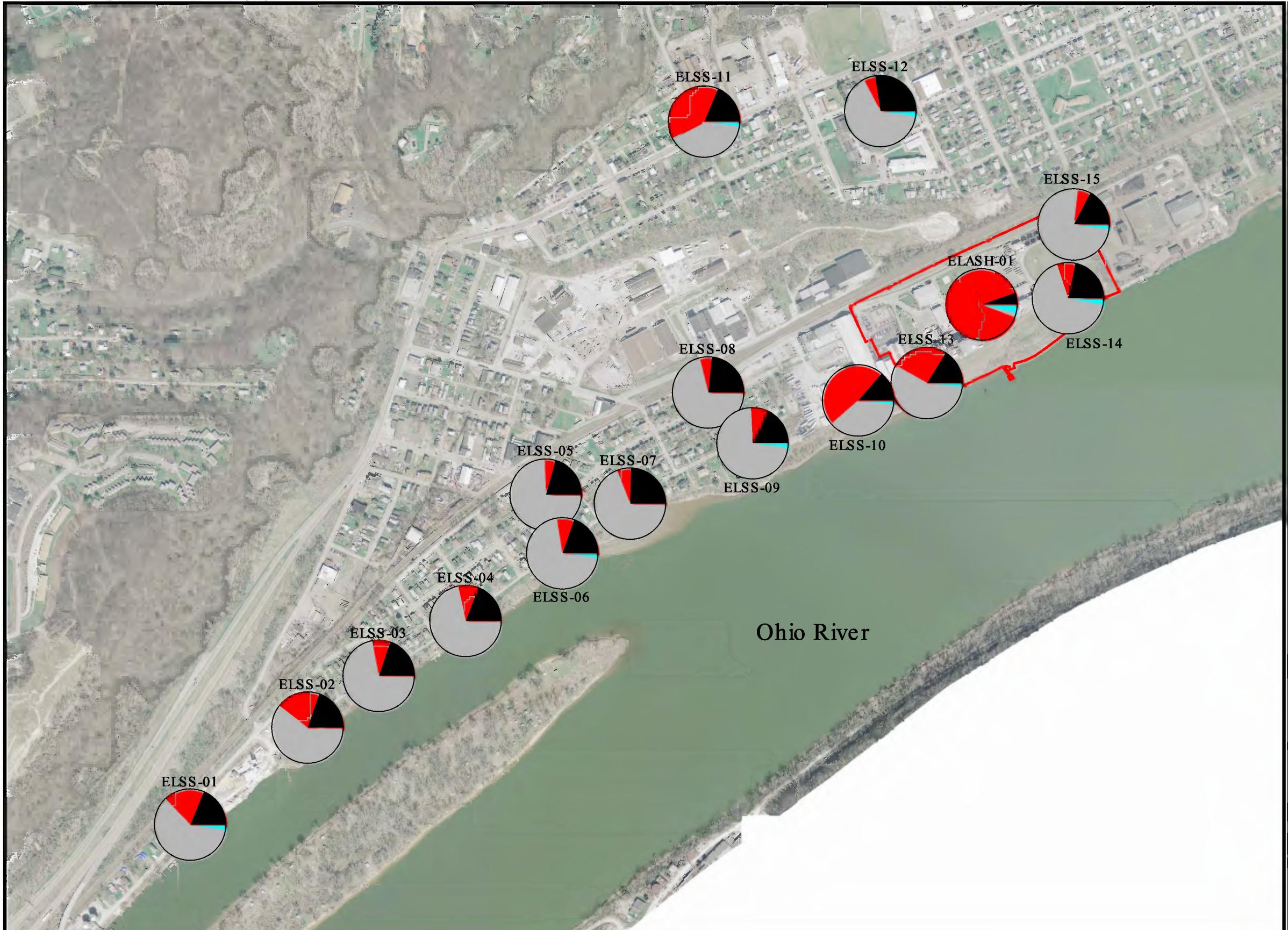


N

Scale

0' 300' 600' 1200'





Legend

Heritage Thermal Services Property Boundary

ELSS-01 Sample Designation

Calcium

Aluminum

Iron

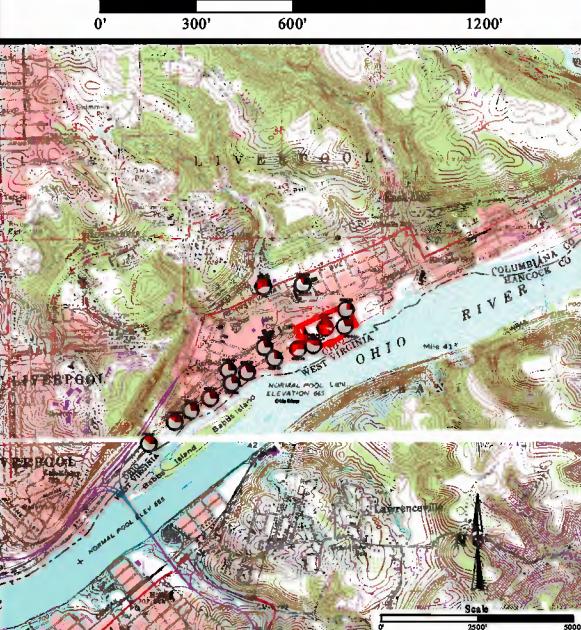
Potassium

Surface soil samples collected at depths of less than two inches.

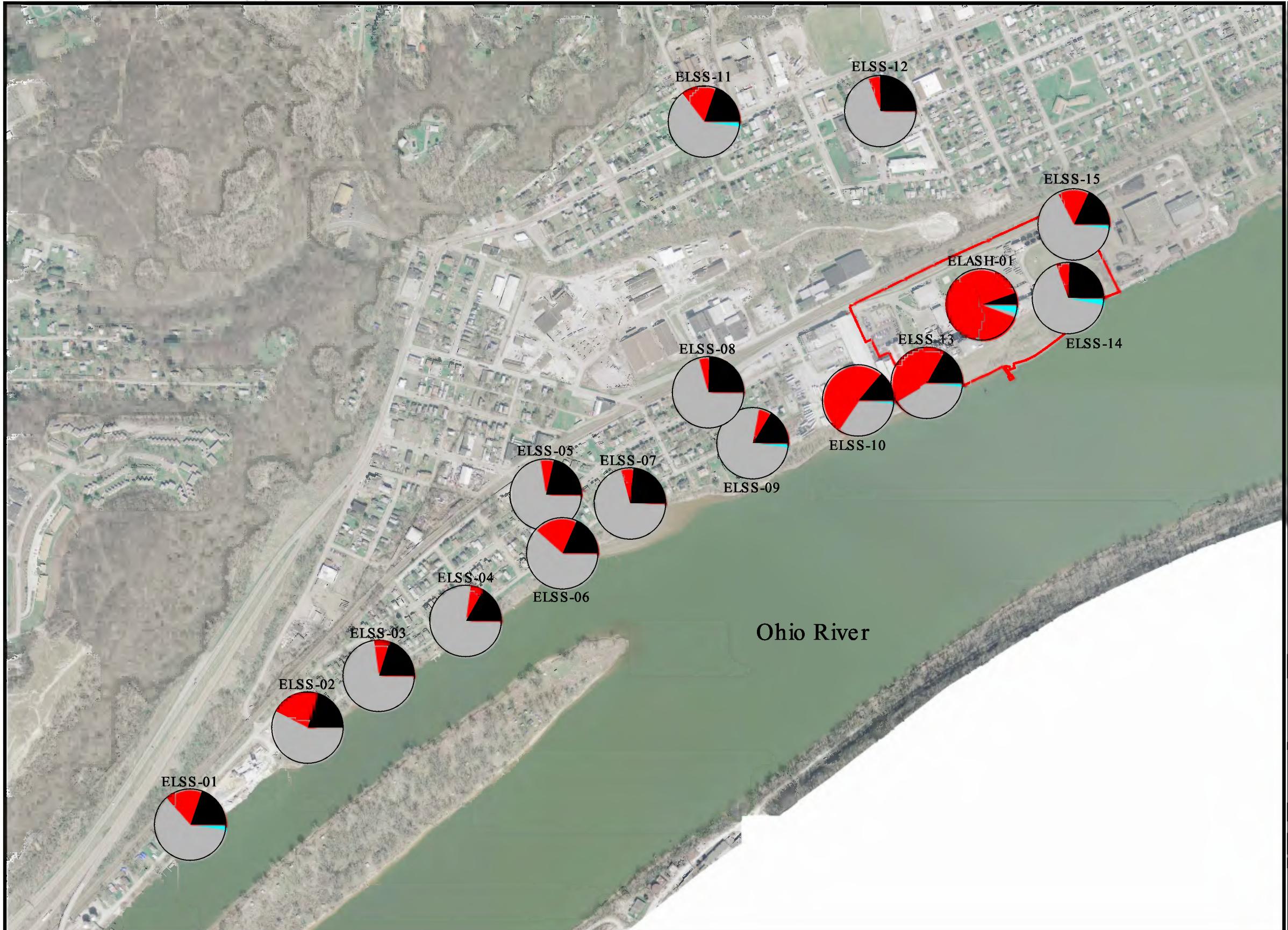
Source of aerial photography: Ohio Department of Administrative Services, 2006/2007

N

Scale



Ratios of Aluminum, Calcium, Iron, and Potassium in Surface Soil Samples,
Heritage Thermal Services,
East Liverpool, Ohio



Legend

Heritage Thermal Services Property Boundary

ELSS-01 Sample Designation

Calcium

Aluminum

Iron

Potassium

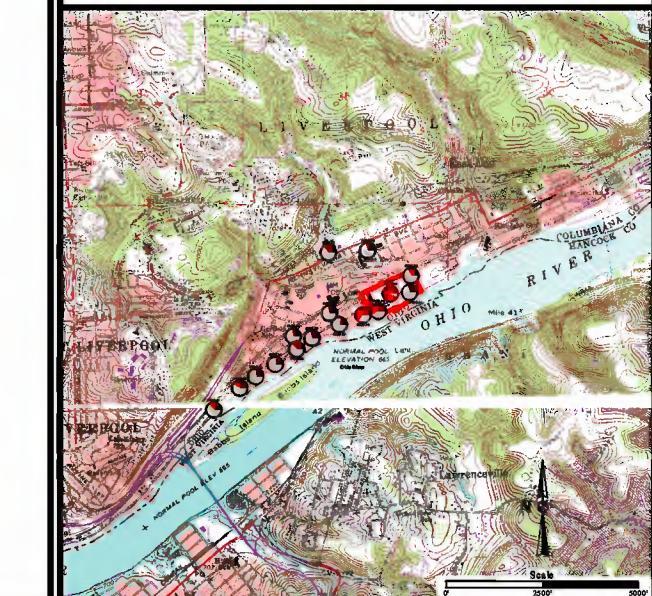
Shallow soil samples collected at a depth of two to three inches.

Source of aerial photography: Ohio Department of Administrative Services, 2006/2007

N

Scale

0' 300' 600' 1200'



Ratios of Aluminum, Calcium, Iron, and Potassium in Shallow Soil Samples,
Heritage Thermal Services,
East Liverpool, Ohio



Legend

Heritage Thermal Services Property Boundary

ELSS-01 Sample Designation



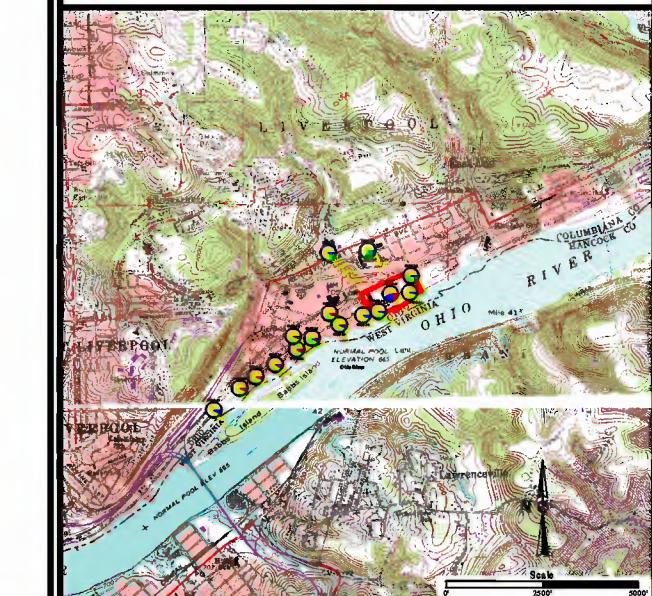
Surface soil samples collected at depths of less than two inches.

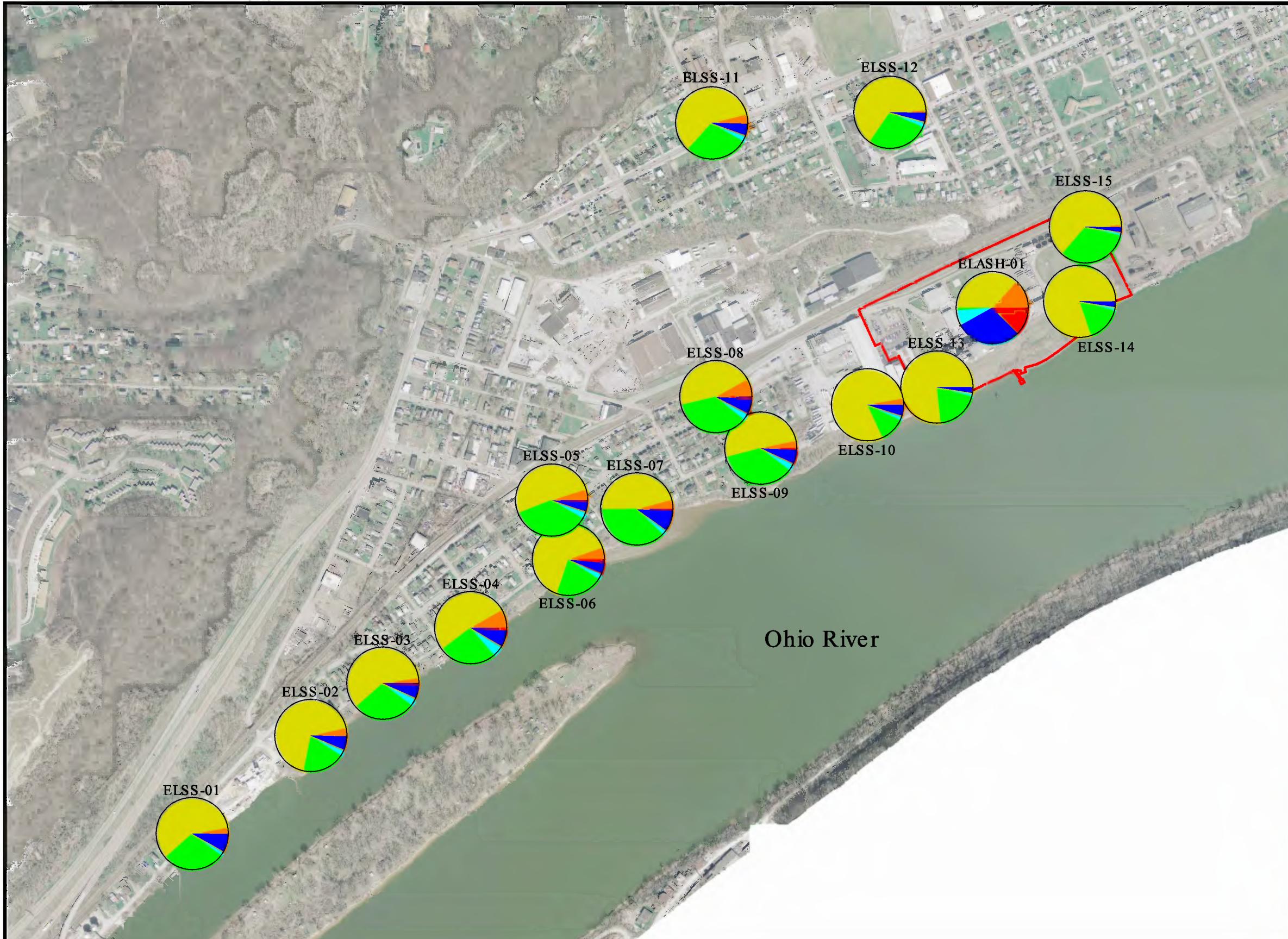
Source of aerial photography: Ohio Department of Administrative Services, 2006/2007

N

Scale

0' 300' 600' 1200'





Legend

Heritage Thermal Services Property Boundary

ELSS-01 Sample Designation



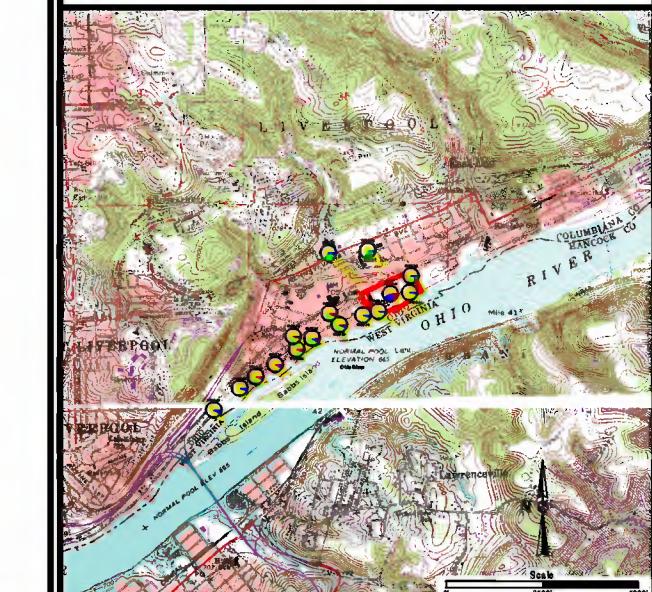
Shallow soil samples collected at a depth of two to three inches.

Source of aerial photography: Ohio Department of Administrative Services, 2006/2007

N

Scale

0' 300' 600' 1200'



Tables

Tables

Table 1. List of Analytes with TestAmerica Reporting Limits

US EPA Target Analyte List (TAL) Metals	
Element	Reporting Limit (mg/kg)
Aluminum (Al)	20
Antimony (Sb)	1
Arsenic (As)	1
Barium (Ba)	20
Beryllium (Be)	0.5
Cadmium (Cd)	0.2
Calcium (Ca)	500
Chromium (Cr)	0.5
Cobalt (Co)	5
Copper (Cu)	2.5
Iron (Fe)	10
Lead (Pb)	0.3
Magnesium (Mg)	500
Manganese (Mn)	1.5
Mercury (Hg)	0.1
Nickel (Ni)	4
Potassium (K)	500
Selenium (Se)	0.5
Silver (Ag)	0.5
Sodium (Na)	500
Thallium (Tl)	1
Vanadium (V)	5
Zinc (Zn)	2

Additional RCRA Appendix IX Metals	
Tin (Sn)	10
Titanium (Ti)	5

K:\CCA\Project\Heritage Thermal System\East Liverpool\Report of Findings\Fraft\Table 1.xls

Table 2. Summary of Analytical Results for Ash and Soil Samples Collected in East Liverpool Ohio, Heritage Thermal Systems, East Liverpool, Ohio.

Page 1 of 3

Location			East Liverpool											
Sample Name			ELASH-01	ELSS-01.01	ELSS-01.03	ELSS-02.01	ELSS-02.03	ELSS-03.01	ELSS-03.03	ELSS-04.01	ELSS-04.03	ELSS-05.01	ELSS-05.03	
Sample Date			7/29/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/29/2013	7/29/2013	7/29/2013	
Sample Type		Ohio	Ash	Surface Soil	Shallow Soil									
Media		Background	Ash	Soil										
Zone		Soil Concentration	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft									
Laboratory	Concentration	Range ^a	TestAmerica Labs											
Lab ID	Units		240-27379-1	240-27379-2	240-27379-3	240-27379-4	240-27379-5	240-27379-6	240-27379-7	240-27379-8	240-27379-9	240-27379-10	240-27379-11	
Aluminum	MG/KG	2000 - 16000	13000	9600	10000	8800	8800	8000	7200	7000	7200	6400	6800	
Antimony	MG/KG	0.97 - 92	75	< 1.2	< 1.2	< 1.4	< 1.3	< 1.3	< 1.2	< 1.3	< 1.3	< 1.1	< 1.1	
Arsenic	MG/KG	0.50 - 56	1700	14	14	18	17	16	14	21	22	15	14	
Barium	MG/KG	9.3 - 320	990	140	140	120	120	63	57	93	100	99	99	
Beryllium	MG/KG	0.10 - 3.2	< .49	1.2	1.3	1.1	1.1	.67	.6	< .64	.71	.75	.74	
Cadmium	MG/KG	0.07 - 4.4	47	1.2	1.2	1.2	1.1	.78	.73	.8	.67	.62	.58	
Calcium	MG/KG		210000	9400	8500	8800	9600	3300	2500	3300	2500	1500	1900	
Chromium	MG/KG	2.0 - 80	46	45	50	23	23	19	16	24	25	17	22	
Cobalt	MG/KG	1.0 - 54	77	18	19	9.5	8.7	8.8	8.8	6.6	< 6.7	7.6	7.4	
Copper	MG/KG	2.2 - 58	2100	49	50	67	66	59	55	78	83	22	21	
Iron	MG/KG	5200 - 100000	4800	31000	31000	27000	25000	29000	26000	26000	33000	23000	23000	
Lead	MG/KG	1.0 - 150	1800	100	110	140	130	56	51	160	160	97	95	
Magnesium	MG/KG		5000	2400	2500	2200	2600	1600	1300	1100	1000	940	1000	
Manganese	MG/KG	59 - 1800	170	1200	1200	740	720	700	620	520	500	630	700	
Mercury	MG/KG	0.0 - 1.6	6.7	< .15	.14	< .15	< .13	< .15	< .14	.14	< .16	.2	.23	
Nickel	MG/KG	2.0 - 110	180	41	46	22	21	18	17	16	17	16	17	
Potassium	MG/KG	230 - 2200	8600	1100	1100	< 680	< 630	< 650	< 600	< 640	< 670	< 530	< 570	
Selenium	MG/KG	0.20 - 35	17	.84	.95	.78	1.3	< .65	.66	.83	1	.6	< .57	
Silver	MG/KG	0.20 - 15	20	< .59	< .6	< .68	< .63	< .65	< .6	< .64	< .67	< .53	< .57	
Sodium	MG/KG		82000	< 590	< 600	< 680	< 630	< 650	< 600	< 640	< 670	< 530	< 570	
Thallium	MG/KG	0.17 - 0.59	< 9.8	< 1.2	< 1.2	< 1.4	< 1.3	< 1.3	< 1.2	< 1.3	< 1.3	< 1.1	< 1.1	
Tin	MG/KG		180	< 12	12	< 14	< 13	< 13	< 12	13	18	< 11	< 11	
Titanium	MG/KG		930	81	82	120	110	87	81	100	100	51	65	
Vanadium	MG/KG	4.6 - 71	86	22	22	17	16	18	16	17	19	15	15	
Zinc	MG/KG	7.5 - 190	4000	340	330	230	220	140	130	150	140	86	84	

Flags preceding value are designed by the lab. Flags following value were determined upon validation.

K:\CCA\PROJECTS\Heritage Thermal Systems\East Liverpool\Report of Findings\Draft Report\analytical summary.qpw

< Not detected.

J- Estimated low bias.

Detected results are **bold**.

a Cox-Colvin & Associates, Inc., 1996. Evaluation of Background Metals Concentrations in Ohio Soils. Unpublished Consultant's Study. June 21, 1996.

Table 2. Summary of Analytical Results for Ash and Soil Samples Collected in East Liverpool Ohio, Heritage Thermal Systems, East Liverpool, Ohio.

Page 2 of 3

Location			East Liverpool										
Sample Name			ELSS-06.01	ELSS-06.03	ELSS-07.01	ELSS-07.03	ELSS-08.01	ELSS-08.03	ELSS-09.01	ELSS-09.03	ELSS-10.01	ELSS-10.03	
Sample Date		Ohio	7/30/2013	7/30/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	
Sample Type		Background	Surface Soil	Shallow Soil									
Media		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Zone		0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.16-0.24 Ft	
Laboratory	Concentration	Range ^a	TestAmerica Labs										
Lab ID	Units		240-27379-12	240-27379-13	240-27379-14	240-27379-15	240-27379-16	240-27379-17	240-27379-18	240-27379-19	240-27379-20	240-27379-21	
Aluminum	MG/KG	2000 - 16000	7500	8700	8200	8000	6900	7300	7200	7500	10000	12000	
Antimony	MG/KG	0.97 - 92	< 1.2	< 1.2	< 1.3	< 1.2	< 1.3	< 1.1	< 1.3	< 1.3	2	1.3	
Arsenic	MG/KG	0.50 - 56	57	53	15	14	14	15	15	15	17	17	
Barium	MG/KG	9.3 - 320	81	90	130	130	160	160	77	79	240	250	
Beryllium	MG/KG	0.10 - 3.2	.69	.89	.76	.78	.74	.75	.67	.7	1.2	1.5	
Cadmium	MG/KG	0.07 - 4.4	.86	.95	.86	.82	.8	.82	.85	.9	2.7	1.7	
Calcium	MG/KG		3000	9400	2100	1900	1600	1400	3100	2600	35000	45000	
Chromium	MG/KG	2.0 - 80	16	16	16	17	17	18	22	21	88	110	
Cobalt	MG/KG	1.0 - 54	8.8	8.8	8.5	8.5	7.4	7.8	9.5	9.4	10	9.5	
Copper	MG/KG	2.2 - 58	53	50	45	46	27	27	23	23	99	98	
Iron	MG/KG	5200 - 100000	27000	29000	23000	24000	21000	21000	29000	35000	27000	29000	
Lead	MG/KG	1.0 - 150	220	200	110	100	170	170	83	85	340	310	
Magnesium	MG/KG		1300	2400	1100	1100	960	950	1300	1300	6000	8400	
Manganese	MG/KG	59 - 1800	660	790	920	900	730	740	810	910	900	1200	
Mercury	MG/KG	0.0 - 1.6	<.14	<.13	<.15	.12	<.15	<.13	<.14	.12	.38	.36	
Nickel	MG/KG	2.0 - 110	17	18	18	19	16	17	21	20	45	49	
Potassium	MG/KG	230 - 2200	650	<590	<660	<590	<650	<540	720	740	1200	1100	
Selenium	MG/KG	0.20 - 35	.67	.71	<.66	<.59	.7	.56	.85	<.64	1.3	1.3	
Silver	MG/KG	0.20 - 15	<.6	<.59	<.66	<.59	<.65	<.54	<.66	<.64	<.65	<.59	
Sodium	MG/KG		<600	<590	<660	<590	<650	<540	<660	<640	<650	<590	
Thallium	MG/KG	0.17 - 0.59	<1.2	<1.2	<1.3	<1.2	<1.3	<1.1	<1.3	<1.3	<1.3	<1.2	
Tin	MG/KG		<12	<12	<13	<12	17	<11	<13	<13	79	86	
Titanium	MG/KG		81	110	62	56	65	69	79	88	200	220	
Vanadium	MG/KG	4.6 - 71	17	15	16	16	14	15	17	18	18	19	
Zinc	MG/KG	7.5 - 190	170	170	230	220	130	140	160	160	520	490	

Flags preceding value are designed by the lab. Flags following value were determined upon validation.

K:\CCA\PROJECTS\Heritage Thermal Systems\East Liverpool\Report of Findings\Draft Report\analytical summary.qpw

< Not detected.

J- Estimated low bias.

Detected results are bold.

a Cox-Colvin & Associates, Inc., 1996. Evaluation of Background Metals Concentrations in Ohio Soils. Unpublished Consultant's Study. June 21, 1996.

Table 2. Summary of Analytical Results for Ash and Soil Samples Collected in East Liverpool Ohio, Heritage Thermal Systems, East Liverpool, Ohio.

Page 3 of 3

Location			East Liverpool	East Liverpool									
Sample Name		Ohio	ELSS-11.01	ELSS-11.03	ELSS-12.01	ELSS-12.03	ELSS-13.01	ELSS-13.03	ELSS-14.01	ELSS-14.03	ELSS-15.01	ELSS-15.03	
Sample Date		Background	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	
Sample Type		Soil	Surface Soil	Shallow Soil	Surface Soil	Shallow Soil	Surface Soil	Shallow Soil	Surface Soil	Shallow Soil	Surface Soil	Shallow Soil	
Media		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Zone		0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.16-0.24 Ft	0.08-0.16 Ft	0.08-0.16 Ft	0.16-0.24 Ft	
Laboratory		TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	TestAmerica Labs	
Lab ID		240-27379-22	240-27379-23	240-27379-24	240-27379-25	240-27379-26	240-27379-27	240-27379-28	240-27379-29	240-27379-30	240-27379-31		
Aluminum	MG/KG	2000 - 16000	12000	9800	9700	8400	12000	11000	9400	11000	6000	7400	
Antimony	MG/KG	0.97 - 92	< 1.3	< 1.3	< 1.2	< 1.2 UJ	< 1.5	< 1.1	< 1.1	< 1.1 UJ	< 1.3	< 1.2	
Arsenic	MG/KG	0.50 - 56	15	17	9.4	9.1	13	8.5	11	9.9	11	11	
Barium	MG/KG	9.3 - 320	190	170	94	95	140	130	97	100 J-	66	62	
Beryllium	MG/KG	0.10 - 3.2	1.5	.92	< .61	< .59	1.4	1.3	.75	.7	< .63	< .61	
Cadmium	MG/KG	0.07 - 4.4	1.2	1.2	.44	.44	1.9	1	.46	.36	.35	.31	
Calcium	MG/KG		25000	7800	1900	1800	19000	27000	3600	2700 J-	2000	5900	
Chromium	MG/KG	2.0 - 80	38	38	18	15	88	58	29	27 J-	40	40	
Cobalt	MG/KG	1.0 - 54	9.2	10	9.4	9.6	24	15	13	15	11	11	
Copper	MG/KG	2.2 - 58	74	83	17	16	45	31	20	21 J-	19	18	
Iron	MG/KG	5200 - 100000	26000	31000	23000	23000	42000	26000	29000	30000	26000	27000	
Lead	MG/KG	1.0 - 150	150	160	24	25 J-	60	39	21	16 J-	36	36	
Magnesium	MG/KG		6800	2500	1800	1700	6200	6700	3300	3600 J-	1600	2500	
Manganese	MG/KG	59 - 1800	1600	1200	700	740	3200	1700	770	720	1700	1300	
Mercury	MG/KG	0.0 - 1.6	.2	.18	<.15	<.13	.54	2.1	<.11	<.12	<.13	<.12	
Nickel	MG/KG	2.0 - 110	23	28	20	19	88	37	27	31	21	22	
Potassium	MG/KG	230 - 2200	1200	1000	790	< 590	1200	990	1200	1300 J-	670	620	
Selenium	MG/KG	0.20 - 35	1.2	.94	<.61	.59	1.6	.93	<.55	<.53	<.63	<.61	
Silver	MG/KG	0.20 - 15	<.66	<.63	<.61	<.59	<.73	<.57	<.55	<.53	<.63	<.61	
Sodium	MG/KG		< 660	< 630	< 610	< 590	< 730	< 570	< 550	< 530	< 630	< 610	
Thallium	MG/KG	0.17 - 0.59	< 1.3	< 1.3	< 1.2	< 1.2	< 2.9	< 1.1	< 1.1	< 1.1	< 1.3	< 1.2	
Tin	MG/KG		16	15	< 12	< 12	< 15	< 11	< 11	< 11	< 13	< 12	
Titanium	MG/KG		150	120	77	66	140	130	71	65 J-	56	58	
Vanadium	MG/KG	4.6 - 71	19	22	18	16	37	21	19	20	16	16	
Zinc	MG/KG	7.5 - 190	190	210	110	99	310	210	100	100 J-	79	76	

Flags preceding value are designed by the lab. Flags following value were determined upon validation.

< Not detected.

J- Estimated low bias.

Detected results are bold.

a Cox-Colvin & Associates, Inc., 1996. Evaluation of Background Metals Concentrations in Ohio Soils. Unpublished Consultant's Study. June 21, 1996.

K:\CCA\PROJECTS\Heritage Thermal Systems\East Liverpool\Report of Findings\Draft Report\analytical summary.qpw

Appendix A

Field Paperwork

Appendix A



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-01.01, ELSS-01.03 Replicate Name ELSS-01.01, ELSS-01.03 Date 7/30/13
Weather Sunny, warm Time Started 09:15 Time Collected 09:25

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab _____ Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-01.01 1"	2"	Silty sand, 30% organic material, very dark brown 10YR 3/2
ELSS-01.03 2"	3"	Silty sand, 30% organic material, gravel 5% at 3", very dark brown 10YR 3/2

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate sample for Ohio EPA for HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-02.01, ELSS-02.03 Replicate Name ELSS-02.01, ELSS-02.03 Date 7/30/13
Weather unny, warm Time Started 08:50 Time Collected 09:05
09:10

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab _____ Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
<u>ELSS-02.01</u> <u>1"</u>	<u>2"</u>	<u>Silty sand, 30% organic material, very dark brown. some ants</u> <u>10YR 3/2</u>
<u>ELSS-02.03</u> <u>2"</u>	<u>3"</u>	<u>Silty sand, 30% organic material, some ants, very dark brown.</u> <u>10YR 3/2</u>

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate samples for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-03.01, ELSS-03.03 Replicate Name ELSS-03.01, ELSS-03.03 Date 7/30/13
Weather calm, breezy Time Started 08:30 Time Collected 08:35
08:40

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" of soil/grass

Grab _____ Composite X

From	To	Soil/Sediment Description
<u>ELSS-03.01</u> 1"	<u>2"</u>	<u>Silty Sand, 30% organic material, very dark brown.</u> <u>10YR 3/2</u>
<u>ELSS-03.03</u> 2"	<u>3"</u>	<u>Silty Sand, 30% organic material, very dark brown.</u> <u>10YR 3/2</u>

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-04.01 ELSS-04.03 Replicate Name ELSS-04.01 ELSS-04.03 Date 7/30/13
Weather Cat, clearing fog Time Started 08:00 Time Collected 08:10
08:20

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grader

Grab Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
<u>ELSS-04.01</u>	<u>1"</u>	<u>Silty sand, 5% gravel, 30% organic material, many earth worms, very dark brown.</u>
<u>ELSS-04.03</u>	<u>2"</u>	<u>Silty sand, 5% gravel, 30% organic material, slightly moist, very dark brown.</u>
	<u>3"</u>	

Other (PID, odors; etc.)

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate samples for Ohio EPA for HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-05.01, ELSS-05.03 Replicate Name ELSS-05.01, ELSS-05.03 Date 7/29/13
Weather Partly cloudy, breezy Time Started 15:45 Time Collected 15:55
16:00

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" of soil and grass

Grab _____ Composite X

From	To	Soil/Sediment Description
ELSS-05.01	1"	Silty sand, 30% organic material, very dark brown 10YR 3/2
ELSS-05.03	2"	Silty sand, 30% organic material, very dark brown 10YR 3/2
	3"	

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate samples for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-06.01, ELSS-06.02 Replicate Name ELSS-06.01, ELSS-06.02 Date 7/30/13
Weather Cool, Foggy Time Started 01:30 Time Collected 01:45
07:50

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with gravel

Grab _____ Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-06.01	1"	silty sand, 30% organic material, Very dark brown. 10YR 3/2.
ELSS-06.02	2"	Silty sand, 10% gravel, 30% organic material, very dark brown. 10YR 3/2.

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate samples for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-07.01 Replicate Name ELSS-07.01 Date 7/29/13
Weather Partly cloudy Time Started 15:15 Time Collected 15:30
15:35

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab _____ Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-07.01 1"	2"	Silty Sand, 30% organic material, no dilacency, very dark brown. 10YR3/2
ELSS-07.03 2"	3"	Silty Sand, 30% organic material, no dilacency, very dark brown. 10YR3/2.

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate samples for Ohio EPA per HTS

Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-08.01, ELSS-08.03 Replicate Name ELSS-08.01, ELSS-08.3 Date 7/29/13
Weather Partly cloudy, slight breeze Time Started 14:10 Time Collected 14:20
14:25

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab _____ Composite X

From	To	Soil/Sediment Description
ELSS-08.01 1"	2"	Silty sand, ^{30% gravel} , 30% organic material, very dark brown, no consistency 10YR 3/2
ELSS-08.03 2"	3"	silty sand, 30% organic material, very dark brown 10YR 3/2

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate sample for Ohio EPA for HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-09.01, ELSS-09.03 Replicate Name ELSS-09.01, ELSS-09.03 Date 7/29/13
Weather Partly cloudy, breezy Time Started 14:40 Time Collected 15:00
15:03

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab _____ Composite X

From	To	Soil/Sediment Description
1"	2"	Silty sand, 30% organic material, no dilatency, very dark brown. 10YR 3/2
2"	3"	Silty sand, 30% organic material, no dilatency, very dark brown 10YR 3/2

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-10.01, ELSS-10.03 Replicate Name ELSS-10.01, ELSS-10.03 Date 7/29/13
Weather Misty cloudy, breezy Time Started 13:30 Time Collected 13:50
14:00

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass.

Grab Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-10.01	1"	2" Cobbles ~50%, Mainly organic material - peat moss, some smaller gravel 3%, no dilatancy, slightly moist. Very dark brown 104R 3/2
ELSS-10.03	2"	3" Cobbles and gravel >50%, Mainly organic material, dry, very dark brown 104R 3/2

Other (PID, odors; etc.)

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect Replicate sample for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-11.01, ELSS-11.03 Replicate Name ELSS-11.01, ELSS-11.03 Date 7/30/13
Weather Sunny, warm Time Started 10:15 Time Collected 10:25
10:30

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab _____ Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-11.01 ELSS-11.01	1"	Silty sand, 30% organics, some building debris - bricks, some trash, black 10YR 2/1
ELSS-11.03	2"	Silty sand, 30% organics, few rounded cobbles, roots, some building debris - bricks, some trash, black 10YR 2/1

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate sample for Ohio EPA per HTS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-12.01, ELSS-12.03 Replicate Name ELSS-12.01, ELSS-12.03 Date 7/30/03
Weather Sunny Time Started 09:45 Time Collected 09:55
10:00

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Remove top 1" with grass

Grab Composite X

From	To	Soil/Sediment Description
ELSS-12.01 1"	2"	Sand with little silt, 30% organic material, dry, brown 10YR 4/3
ELSS-12.03 2"	3"	Sand with little silt, 30% organic material, dry, brown 10YR 4/3

Other (PID, odors; etc.)

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect replicate samples for Ohio EPA per HTS, Site is a baseball field, use
Sampling Personnel Zane Cox, Cassie Pollock ELSS-12.03 for MS/MSD markonCOX



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-13.01, ELSS-13.03 Replicate Name ELSS-13.01, ELSS-13.03 Date 7/29/13
Weather Partly Cloudy Time Started 11:50 Time Collected 12:05
12:15

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Removed grass from top 1".

Grab Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-13.01 1"	2"	Sandy Silt, 3% gravel, 30% organics, medium plasticity, very dark brown 104R312
ELSS-13.03 2"	3"	Sandy Silt, 3% gravel, 30% organics, medium plasticity, Very dark brown 104R312

Other (PID, odors; etc.)

Constituents Sampled

TAL Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect Replicate for Ohio EPA per HTS.

Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-14.01, ELSS-14.03 Replicate Name ELSS-14.03 Date 7/27/13
Weather Partly cloudy, breezy Time Started 11:20 Time Collected 11:30
11:35

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Removed grass from top 1".

Grab _____ Composite X

From	To	Soil/Sediment Description
ELSS-14.01	1"	Silty Sand, 10% gravel, 30% organic materials, brown 10YR 3/2
ELSS-14.03	2"	Silty Sand with gravel (12%), 30% organic materials, brown 10YR 3/2

Other (PID, odors; etc.) _____

Constituents Sampled

TAT, Metals Plus Tin and Titanium

Container Description

1 x 4oz glass jar

Remarks Collect Replicate samples for Ohio EPA, per HTS. Use ELSS-14.03 for USGS
Sampling Personnel Zane Cox, Cassie Pollock



SOIL SAMPLING LOG

Project Evaluate Extent of Ash Release HTS City East Liverpool State Ohio
Sample Name ELSS-15.01, ELSS-15.02 Replicate Name ELSS-15.01 Date 7/29/13
Weather Slightly cloudy, breezy Time Started 10:45 Time Collected 10:50 (.01)
11:05 (.03)

Sampling Method and Material Soil probe to evaluate the make up of the soil. Sample was collected from a one square foot area with a stainless steel spoon and mixed in a stainless steel bowl.
Removed grass from top 1".

Grab _____ Composite X

<u>From</u>	<u>To</u>	<u>Soil/Sediment Description</u>
ELSS-15.01 1"	2"	Silty Sand, 3% gravel, 30% organic material, <u>Very dark</u> 10YR 3/2
ELSS-15.02 2"	3"	Silty Sand, 3% gravel, 30% organic material, <u>Very dark</u> 10YR 3/2

Other (PID, odors; etc.) _____

Constituents Sampled

TAL Metals Plus Tin and Titanium

as above

Container Description

1 x 4oz glass jar

1 x 4oz glass jar for EPA

Remarks Replicates collected for Ohio EPA per HTS

Sampling Personnel Zane Cox, Cassie Pollock



Daily Quality Control Report

Client: HTS
City: EAST Liverpool
Date: 7/29/13

Project: Evaluate Extent of Ash Release
State: Ohio

Weather:

Partly cloudy, breezy

Work Performed:

Soil Sampling. Sample sites were located with GPS, one square foot was measured, grids removed, sample collected from 1"-2" depth and 2" to 3" depth

Sample Types & Analyses:

Soil samples collected in 4 oz jars

Field Analyses Performed:

See Soil Sampling Log - No field analyses performed

Problems Encountered/Corrective Actions Initiated:

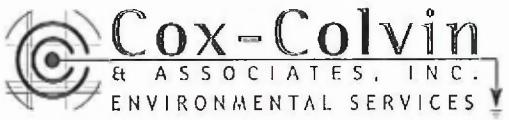
Had to duplicate samples for the Ohio EPA had to increase sample grid to have enough soil

Quality Control Activities Performed (QA samples, decon/disposable equip., etc.):

Changing gloves, washing all sampling equipment off and clean with Alcohol

Signature of Reporter:

A handwritten signature consisting of two stylized, cursive letters, likely 'Z' and 'C'.



Daily Quality Control Report

Client: HTS Project: Evaluate Extent of Ash Release
City: East Liverpool State: Ohio
Date: 7/20/13

Weather: Partly cloudy, breeze, 80°

Work Performed:

Soil sampling, location of points with GPS and square foot mats measured, grass removed, from 1"-2" depth sample collected and samples collected at 2" to 3".

Sample Types & Analyses:

Soil. Collected in 4oz Jars. See Sampling Log

Field Analyses Performed:

None

Problems Encountered/Corrective Actions Initiated:

None

Quality Control Activities Performed (QA samples, decon/disposable equip., etc.):

Same as 7/29/13

Signature of Reporter:

A handwritten signature in blue ink that appears to read "Brian Clegg".

Appendix B

Laboratory and Validation Reports

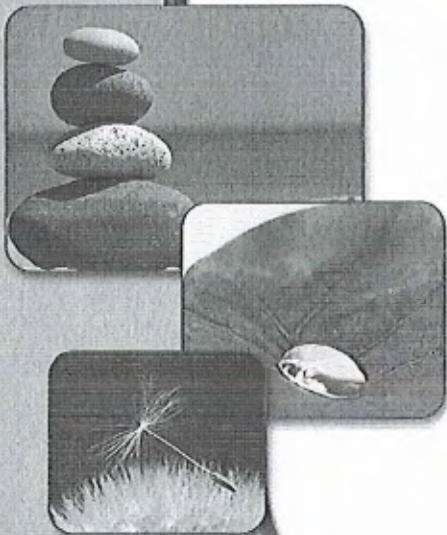
Appendix B

Cox-Colvin & Associates, Inc.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT



TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-27379-1
Client Project/Site: HTS East Liverpool

For:
Cox-Colvin & Associates, Inc.
7750 Corporate Blvd.
Plain City, Ohio 43064

Attn: Mr. Michael Paessun

Authorized for release by:
8/5/2013 5:52:54 PM

Mark Loeb, Project Manager II
mark.loeb@testamericainc.com

AUG 07 2013

Imp & Added to DB
8-7-13

Ex Val Flags
8-7-13 CR

Validated 8-7-13
KMS

HTS-01-09-01-1
Analytical Report for HTS East Liverpool Lot # 240-27379
Mark Loeb
8/5/2013

Cox-Colvin & Associates, Inc.

Test America

HTS-01-09-01-1
Analytical Laboratory
Report for HTS East Liverpool Lot # 240-27379

LINKS

Review your project
results through

Total Access

Have a Question?

Ask
The
Expert

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	23
QC Sample Results	85
QC Association Summary	91
Lab Chronicle	96
Certification Summary	104
Chain of Custody	105

Definitions/Glossary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
D	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Job ID: 240-27379-1

Laboratory: TestAmerica Canton

Narrative

4

CASE NARRATIVE

Client: Cox-Colvin & Associates, Inc.

Project: HTS East Liverpool

Report Number: 240-27379-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 07/30/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.2 C.

TOTAL METALS (ICP)

Samples ELASH-01 (240-27379-1), ELSS-01.01 (240-27379-2), ELSS-01.03 (240-27379-3), ELSS-02.01 (240-27379-4), ELSS-02.03 (240-27379-5), ELSS-03.01 (240-27379-6), ELSS-03.03 (240-27379-7), ELSS-04.01 (240-27379-8), ELSS-04.03 (240-27379-9), ELSS-05.01 (240-27379-10), ELSS-05.03 (240-27379-11), ELSS-06.01 (240-27379-12), ELSS-06.03 (240-27379-13), ELSS-07.01 (240-27379-14), ELSS-07.03 (240-27379-15), ELSS-08.01 (240-27379-16), ELSS-08.03 (240-27379-17), ELSS-09.01 (240-27379-18), ELSS-09.03 (240-27379-19), ELSS-10.01 (240-27379-20), ELSS-10.03 (240-27379-21), ELSS-11.01 (240-27379-22), ELSS-11.03 (240-27379-23), ELSS-12.01 (240-27379-24), ELSS-12.03 (240-27379-25), ELSS-13.01 (240-27379-26), ELSS-13.03 (240-27379-27), ELSS-14.01 (240-27379-28), ELSS-14.03 (240-27379-29), ELSS-15.01 (240-27379-30) and ELSS-15.03 (240-27379-31) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 07/31/2013 and analyzed on 08/01/2013 and 08/02/2013.

Antimony, Iron, Lead and Manganese failed the recovery criteria low for the MS of sample ELSS-12.03MS (240-27379-25) in batch 240-95922. Aluminum failed the recovery criteria high.

Case Narrative

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Job ID: 240-27379-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Antimony and Lead failed the recovery criteria low for the MSD of sample ELSS-12.03MSD (240-27379-25) in batch 240-95922. Aluminum and Iron failed the recovery criteria high.

Antimony, Calcium and Titanium failed the recovery criteria low for the MS of sample ELSS-14.03MS (240-27379-29) in batch 240-95922. Aluminum, Iron and Manganese failed the recovery criteria high.

For the MSD of sample ELSS-14.03MSD (240-27379-29) in batch 240-95922, Several analytes failed the recovery criteria low. Aluminum and Manganese failed the recovery criteria high. Also, Manganese exceeded the RPD limit.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Samples ELASH-01 (240-27379-1)[10X] and ELSS-13.01 (240-27379-26)[2X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

TOTAL MERCURY

Samples ELASH-01 (240-27379-1), ELSS-01.01 (240-27379-2), ELSS-01.03 (240-27379-3), ELSS-02.01 (240-27379-4), ELSS-02.03 (240-27379-5), ELSS-03.01 (240-27379-6), ELSS-03.03 (240-27379-7), ELSS-04.01 (240-27379-8), ELSS-04.03 (240-27379-9), ELSS-05.01 (240-27379-10), ELSS-05.03 (240-27379-11), ELSS-06.01 (240-27379-12), ELSS-06.03 (240-27379-13), ELSS-07.01 (240-27379-14), ELSS-07.03 (240-27379-15), ELSS-08.01 (240-27379-16), ELSS-08.03 (240-27379-17), ELSS-09.01 (240-27379-18), ELSS-09.03 (240-27379-19), ELSS-10.01 (240-27379-20), ELSS-10.03 (240-27379-21), ELSS-11.01 (240-27379-22), ELSS-11.03 (240-27379-23), ELSS-12.01 (240-27379-24), ELSS-12.03 (240-27379-25), ELSS-13.01 (240-27379-26), ELSS-13.03 (240-27379-27), ELSS-14.01 (240-27379-28), ELSS-14.03 (240-27379-29), ELSS-15.01 (240-27379-30) and ELSS-15.03 (240-27379-31) were analyzed for total mercury in accordance with EPA SW-846 Method 7471A. The samples were prepared on 07/31/2013 and analyzed on 08/01/2013.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

PERCENT SOLIDS

Samples ELASH-01 (240-27379-1), ELSS-01.01 (240-27379-2), ELSS-01.03 (240-27379-3), ELSS-02.01 (240-27379-4), ELSS-02.03 (240-27379-5), ELSS-03.01 (240-27379-6), ELSS-03.03 (240-27379-7), ELSS-04.01 (240-27379-8), ELSS-04.03 (240-27379-9), ELSS-05.01 (240-27379-10), ELSS-05.03 (240-27379-11), ELSS-06.01 (240-27379-12), ELSS-06.03 (240-27379-13), ELSS-07.01 (240-27379-14), ELSS-07.03 (240-27379-15), ELSS-08.01 (240-27379-16), ELSS-08.03 (240-27379-17), ELSS-09.01 (240-27379-18), ELSS-09.03 (240-27379-19), ELSS-10.01 (240-27379-20), ELSS-10.03 (240-27379-21), ELSS-11.01 (240-27379-22), ELSS-11.03 (240-27379-23), ELSS-12.01 (240-27379-24), ELSS-12.03 (240-27379-25), ELSS-13.01 (240-27379-26), ELSS-13.03 (240-27379-27), ELSS-14.01 (240-27379-28), ELSS-14.03 (240-27379-29), ELSS-15.01 (240-27379-30) and ELSS-15.03 (240-27379-31) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 07/31/2013.

No difficulties were encountered during the % solids analysis. All quality control parameters were within the acceptance limits.

Method Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
7471A	Mercury (CVAA)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



5



Sample Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-27379-1	ELASH-01	Solid	07/29/13 11:25	07/30/13 13:00
240-27379-2	ELSS-01.01	Solid	07/30/13 09:25	07/30/13 13:00
240-27379-3	ELSS-01.03	Solid	07/30/13 09:30	07/30/13 13:00
240-27379-4	ELSS-02.01	Solid	07/30/13 09:05	07/30/13 13:00
240-27379-5	ELSS-02.03	Solid	07/30/13 09:10	07/30/13 13:00
240-27379-6	ELSS-03.01	Solid	07/30/13 08:35	07/30/13 13:00
240-27379-7	ELSS-03.03	Solid	07/30/13 08:40	07/30/13 13:00
240-27379-8	ELSS-04.01	Solid	07/30/13 08:10	07/30/13 13:00
240-27379-9	ELSS-04.03	Solid	07/30/13 08:20	07/30/13 13:00
240-27379-10	ELSS-05.01	Solid	07/29/13 15:55	07/30/13 13:00
240-27379-11	ELSS-05.03	Solid	07/29/13 16:00	07/30/13 13:00
240-27379-12	ELSS-06.01	Solid	07/30/13 07:45	07/30/13 13:00
240-27379-13	ELSS-06.03	Solid	07/30/13 07:50	07/30/13 13:00
240-27379-14	ELSS-07.01	Solid	07/29/13 15:30	07/30/13 13:00
240-27379-15	ELSS-07.03	Solid	07/29/13 15:35	07/30/13 13:00
240-27379-16	ELSS-08.01	Solid	07/29/13 14:20	07/30/13 13:00
240-27379-17	ELSS-08.03	Solid	07/29/13 14:25	07/30/13 13:00
240-27379-18	ELSS-09.01	Solid	07/29/13 15:00	07/30/13 13:00
240-27379-19	ELSS-09.03	Solid	07/29/13 15:05	07/30/13 13:00
240-27379-20	ELSS-10.01	Solid	07/29/13 13:50	07/30/13 13:00
240-27379-21	ELSS-10.03	Solid	07/29/13 14:00	07/30/13 13:00
240-27379-22	ELSS-11.01	Solid	07/30/13 10:25	07/30/13 13:00
240-27379-23	ELSS-11.03	Solid	07/30/13 10:30	07/30/13 13:00
240-27379-24	ELSS-12.01	Solid	07/30/13 09:55	07/30/13 13:00
240-27379-25	ELSS-12.03	Solid	07/30/13 10:00	07/30/13 13:00
240-27379-26	ELSS-13.01	Solid	07/29/13 12:05	07/30/13 13:00
240-27379-27	ELSS-13.03	Solid	07/29/13 12:15	07/30/13 13:00
240-27379-28	ELSS-14.01	Solid	07/29/13 11:30	07/30/13 13:00
240-27379-29	ELSS-14.03	Solid	07/29/13 11:35	07/30/13 13:00
240-27379-30	ELSS-15.01	Solid	07/29/13 10:50	07/30/13 13:00
240-27379-31	ELSS-15.03	Solid	07/29/13 11:05	07/30/13 13:00



For validated data, see complete results pages.

KMS

8-7-13

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELASH-01

Lab Sample ID: 240-27379-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	13000		20	mg/Kg	1	0	6010B	Total/NA
Antimony	75		0.98	mg/Kg	1	0	6010B	Total/NA
Arsenic	1700		9.8	mg/Kg	10	0	6010B	Total/NA
Barium	990		20	mg/Kg	1	0	6010B	Total/NA
Cadmium	47		2.0	mg/Kg	10	0	6010B	Total/NA
Calcium	210000		4900	mg/Kg	10	0	6010B	Total/NA
Chromium	46		0.49	mg/Kg	1	0	6010B	Total/NA
Cobalt	77		49	mg/Kg	10	0	6010B	Total/NA
Copper	2100		25	mg/Kg	10	0	6010B	Total/NA
Iron	4800		9.8	mg/Kg	1	0	6010B	Total/NA
Lead	1800		2.9	mg/Kg	10	0	6010B	Total/NA
Magnesium	5000		490	mg/Kg	1	0	6010B	Total/NA
Manganese	170		1.5	mg/Kg	1	0	6010B	Total/NA
Nickel	180		39	mg/Kg	10	0	6010B	Total/NA
Potassium	8600		490	mg/Kg	1	0	6010B	Total/NA
Selenium	17		0.49	mg/Kg	1	0	6010B	Total/NA
Silver	20		0.49	mg/Kg	1	0	6010B	Total/NA
Sodium	82000		4900	mg/Kg	10	0	6010B	Total/NA
Tin	180		98	mg/Kg	10	0	6010B	Total/NA
Titanium	930		4.9	mg/Kg	1	0	6010B	Total/NA
Vanadium	86		4.9	mg/Kg	1	0	6010B	Total/NA
Zinc	4000		20	mg/Kg	10	0	6010B	Total/NA
Mercury	6.7		0.12	mg/Kg	1	0	7471A	Total/NA

Client Sample ID: ELSS-01.01

Lab Sample ID: 240-27379-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9600		24	mg/Kg	1	0	6010B	Total/NA
Arsenic	14		1.2	mg/Kg	1	0	6010B	Total/NA
Barium	140		24	mg/Kg	1	0	6010B	Total/NA
Beryllium	1.2		0.59	mg/Kg	1	0	6010B	Total/NA
Cadmium	1.2		0.24	mg/Kg	1	0	6010B	Total/NA
Calcium	9400		590	mg/Kg	1	0	6010B	Total/NA
Chromium	45		0.59	mg/Kg	1	0	6010B	Total/NA
Cobalt	18		5.9	mg/Kg	1	0	6010B	Total/NA
Copper	49		2.9	mg/Kg	1	0	6010B	Total/NA
Iron	31000		12	mg/Kg	1	0	6010B	Total/NA
Lead	100		0.35	mg/Kg	1	0	6010B	Total/NA
Magnesium	2400		590	mg/Kg	1	0	6010B	Total/NA
Manganese	1200		1.8	mg/Kg	1	0	6010B	Total/NA
Nickel	41		4.7	mg/Kg	1	0	6010B	Total/NA
Potassium	1100		590	mg/Kg	1	0	6010B	Total/NA
Selenium	0.84		0.59	mg/Kg	1	0	6010B	Total/NA
Titanium	81		5.9	mg/Kg	1	0	6010B	Total/NA
Vanadium	22		5.9	mg/Kg	1	0	6010B	Total/NA
Zinc	340		2.4	mg/Kg	1	0	6010B	Total/NA

Client Sample ID: ELSS-01.03

Lab Sample ID: 240-27379-3

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-01.03 (Continued)

Lab Sample ID: 240-27379-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	10000		24	mg/Kg	1	*	6010B	Total/NA
Arsenic	14		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	140		24	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.3		0.60	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.2		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	8500		600	mg/Kg	1	*	6010B	Total/NA
Chromium	50		0.60	mg/Kg	1	*	6010B	Total/NA
Cobalt	19		6.0	mg/Kg	1	*	6010B	Total/NA
Copper	50		3.0	mg/Kg	1	*	6010B	Total/NA
Iron	31000		12	mg/Kg	1	*	6010B	Total/NA
Lead	110		0.36	mg/Kg	1	*	6010B	Total/NA
Magnesium	2500		600	mg/Kg	1	*	6010B	Total/NA
Manganese	1200		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	46		4.8	mg/Kg	1	*	6010B	Total/NA
Potassium	1100		600	mg/Kg	1	*	6010B	Total/NA
Selenium	0.95		0.60	mg/Kg	1	*	6010B	Total/NA
Tin	12		12	mg/Kg	1	*	6010B	Total/NA
Titanium	82		6.0	mg/Kg	1	*	6010B	Total/NA
Vanadium	22		6.0	mg/Kg	1	*	6010B	Total/NA
Zinc	330		2.4	mg/Kg	1	*	6010B	Total/NA
Mercury	0.14		0.13	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-02.01

Lab Sample ID: 240-27379-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8800		27	mg/Kg	1	*	6010B	Total/NA
Arsenic	18		1.4	mg/Kg	1	*	6010B	Total/NA
Barium	120		27	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.1		0.68	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.2		0.27	mg/Kg	1	*	6010B	Total/NA
Calcium	8800		680	mg/Kg	1	*	6010B	Total/NA
Chromium	23		0.68	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.5		6.8	mg/Kg	1	*	6010B	Total/NA
Copper	67		3.4	mg/Kg	1	*	6010B	Total/NA
Iron	27000		14	mg/Kg	1	*	6010B	Total/NA
Lead	140		0.41	mg/Kg	1	*	6010B	Total/NA
Magnesium	2200		680	mg/Kg	1	*	6010B	Total/NA
Manganese	740		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	22		5.4	mg/Kg	1	*	6010B	Total/NA
Selenium	0.78		0.68	mg/Kg	1	*	6010B	Total/NA
Titanium	120		6.8	mg/Kg	1	*	6010B	Total/NA
Vanadium	17		6.8	mg/Kg	1	*	6010B	Total/NA
Zinc	230		2.7	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-02.03

Lab Sample ID: 240-27379-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8800		25	mg/Kg	1	*	6010B	Total/NA
Arsenic	17		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	120		25	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-02.03 (Continued)

Lab Sample ID: 240-27379-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	1.1		0.63	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.1		0.25	mg/Kg	1	*	6010B	Total/NA
Calcium	9600		630	mg/Kg	1	*	6010B	Total/NA
Chromium	23		0.63	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.7		6.3	mg/Kg	1	*	6010B	Total/NA
Copper	66		3.1	mg/Kg	1	*	6010B	Total/NA
Iron	25000		13	mg/Kg	1	*	6010B	Total/NA
Lead	130		0.38	mg/Kg	1	*	6010B	Total/NA
Magnesium	2600		630	mg/Kg	1	*	6010B	Total/NA
Manganese	720		1.9	mg/Kg	1	*	6010B	Total/NA
Nickel	21		5.0	mg/Kg	1	*	6010B	Total/NA
Selenium	1.3		0.63	mg/Kg	1	*	6010B	Total/NA
Titanium	110		6.3	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		6.3	mg/Kg	1	*	6010B	Total/NA
Zinc	220		2.5	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-03.01

Lab Sample ID: 240-27379-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8000		26	mg/Kg	1	*	6010B	Total/NA
Arsenic	16		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	63		26	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.67		0.65	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.78		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	3300		650	mg/Kg	1	*	6010B	Total/NA
Chromium	19		0.65	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.8		6.5	mg/Kg	1	*	6010B	Total/NA
Copper	59		3.2	mg/Kg	1	*	6010B	Total/NA
Iron	29000		13	mg/Kg	1	*	6010B	Total/NA
Lead	56		0.39	mg/Kg	1	*	6010B	Total/NA
Magnesium	1600		650	mg/Kg	1	*	6010B	Total/NA
Manganese	700		1.9	mg/Kg	1	*	6010B	Total/NA
Nickel	18		5.2	mg/Kg	1	*	6010B	Total/NA
Titanium	87		6.5	mg/Kg	1	*	6010B	Total/NA
Vanadium	18		6.5	mg/Kg	1	*	6010B	Total/NA
Zinc	140		2.6	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-03.03

Lab Sample ID: 240-27379-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7200		24	mg/Kg	1	*	6010B	Total/NA
Arsenic	14		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	57		24	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.60		0.60	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.73		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	2500		600	mg/Kg	1	*	6010B	Total/NA
Chromium	16		0.60	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.8		6.0	mg/Kg	1	*	6010B	Total/NA
Copper	55		3.0	mg/Kg	1	*	6010B	Total/NA
Iron	26000		12	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-03.03 (Continued)

Lab Sample ID: 240-27379-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	51		0.36	mg/Kg	1	*	6010B	Total/NA
Magnesium	1300		600	mg/Kg	1	*	6010B	Total/NA
Manganese	620		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	17		4.8	mg/Kg	1	*	6010B	Total/NA
Selenium	0.66		0.60	mg/Kg	1	*	6010B	Total/NA
Titanium	81		6.0	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		6.0	mg/Kg	1	*	6010B	Total/NA
Zinc	130		2.4	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-04.01

Lab Sample ID: 240-27379-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7000		26	mg/Kg	1	*	6010B	Total/NA
Arsenic	21		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	93		26	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.80		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	3300		640	mg/Kg	1	*	6010B	Total/NA
Chromium	24		0.64	mg/Kg	1	*	6010B	Total/NA
Cobalt	6.6		6.4	mg/Kg	1	*	6010B	Total/NA
Copper	78		3.2	mg/Kg	1	*	6010B	Total/NA
Iron	28000		13	mg/Kg	1	*	6010B	Total/NA
Lead	160		0.39	mg/Kg	1	*	6010B	Total/NA
Magnesium	1100		640	mg/Kg	1	*	6010B	Total/NA
Manganese	520		1.9	mg/Kg	1	*	6010B	Total/NA
Nickel	16		5.2	mg/Kg	1	*	6010B	Total/NA
Selenium	0.83		0.64	mg/Kg	1	*	6010B	Total/NA
Tin	13		13	mg/Kg	1	*	6010B	Total/NA
Titanium	100		6.4	mg/Kg	1	*	6010B	Total/NA
Vanadium	17		6.4	mg/Kg	1	*	6010B	Total/NA
Zinc	150		2.6	mg/Kg	1	*	6010B	Total/NA
Mercury	0.14		0.13	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-04.03

Lab Sample ID: 240-27379-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7200		27	mg/Kg	1	*	6010B	Total/NA
Arsenic	22		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	100		27	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.71		0.67	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.67		0.27	mg/Kg	1	*	6010B	Total/NA
Calcium	2500		670	mg/Kg	1	*	6010B	Total/NA
Chromium	25		0.67	mg/Kg	1	*	6010B	Total/NA
Copper	83		3.3	mg/Kg	1	*	6010B	Total/NA
Iron	33000		13	mg/Kg	1	*	6010B	Total/NA
Lead	160		0.40	mg/Kg	1	*	6010B	Total/NA
Magnesium	1000		670	mg/Kg	1	*	6010B	Total/NA
Manganese	500		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	17		5.3	mg/Kg	1	*	6010B	Total/NA
Selenium	1.0		0.67	mg/Kg	1	*	6010B	Total/NA
Tin	18		13	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-04.03 (Continued)

Lab Sample ID: 240-27379-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Titanium	100		6.7	mg/Kg	1	*	6010B	Total/NA
Vanadium	19		6.7	mg/Kg	1	*	6010B	Total/NA
Zinc	140		2.7	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-05.01

Lab Sample ID: 240-27379-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6400		21	mg/Kg	1	*	6010B	Total/NA
Arsenic	15		1.1	mg/Kg	1	*	6010B	Total/NA
Barium	99		21	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.75		0.53	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.62		0.21	mg/Kg	1	*	6010B	Total/NA
Calcium	1500		530	mg/Kg	1	*	6010B	Total/NA
Chromium	17		0.53	mg/Kg	1	*	6010B	Total/NA
Cobalt	7.6		5.3	mg/Kg	1	*	6010B	Total/NA
Copper	22		2.7	mg/Kg	1	*	6010B	Total/NA
Iron	23000		11	mg/Kg	1	*	6010B	Total/NA
Lead	97		0.32	mg/Kg	1	*	6010B	Total/NA
Magnesium	940		530	mg/Kg	1	*	6010B	Total/NA
Manganese	630		1.6	mg/Kg	1	*	6010B	Total/NA
Nickel	16		4.2	mg/Kg	1	*	6010B	Total/NA
Selenium	0.60		0.53	mg/Kg	1	*	6010B	Total/NA
Titanium	51		5.3	mg/Kg	1	*	6010B	Total/NA
Vanadium	15		5.3	mg/Kg	1	*	6010B	Total/NA
Zinc	86		2.1	mg/Kg	1	*	6010B	Total/NA
Mercury	0.20		0.14	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-05.03

Lab Sample ID: 240-27379-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6800		23	mg/Kg	1	*	6010B	Total/NA
Arsenic	14		1.1	mg/Kg	1	*	6010B	Total/NA
Barium	99		23	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.74		0.57	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.58		0.23	mg/Kg	1	*	6010B	Total/NA
Calcium	1900		570	mg/Kg	1	*	6010B	Total/NA
Chromium	22		0.57	mg/Kg	1	*	6010B	Total/NA
Cobalt	7.4		5.7	mg/Kg	1	*	6010B	Total/NA
Copper	21		2.9	mg/Kg	1	*	6010B	Total/NA
Iron	23000		11	mg/Kg	1	*	6010B	Total/NA
Lead	95		0.34	mg/Kg	1	*	6010B	Total/NA
Magnesium	1000		570	mg/Kg	1	*	6010B	Total/NA
Manganese	700		1.7	mg/Kg	1	*	6010B	Total/NA
Nickel	17		4.6	mg/Kg	1	*	6010B	Total/NA
Titanium	65		5.7	mg/Kg	1	*	6010B	Total/NA
Vanadium	15		5.7	mg/Kg	1	*	6010B	Total/NA
Zinc	84		2.3	mg/Kg	1	*	6010B	Total/NA
Mercury	0.23		0.12	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-06.01

Lab Sample ID: 240-27379-12

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-06.01 (Continued)

Lab Sample ID: 240-27379-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7500		24	mg/Kg	1	*	6010B	Total/NA
Arsenic	57		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	81		24	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.69		0.60	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.86		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	3000		600	mg/Kg	1	*	6010B	Total/NA
Chromium	16		0.60	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.8		6.0	mg/Kg	1	*	6010B	Total/NA
Copper	53		3.0	mg/Kg	1	*	6010B	Total/NA
Iron	27000		12	mg/Kg	1	*	6010B	Total/NA
Lead	220		0.36	mg/Kg	1	*	6010B	Total/NA
Magnesium	1300		600	mg/Kg	1	*	6010B	Total/NA
Manganese	660		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	17		4.8	mg/Kg	1	*	6010B	Total/NA
Potassium	650		600	mg/Kg	1	*	6010B	Total/NA
Selenium	0.67		0.60	mg/Kg	1	*	6010B	Total/NA
Titanium	81		6.0	mg/Kg	1	*	6010B	Total/NA
Vanadium	17		6.0	mg/Kg	1	*	6010B	Total/NA
Zinc	170		2.4	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-06.03

Lab Sample ID: 240-27379-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8700		23	mg/Kg	1	*	6010B	Total/NA
Arsenic	53		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	90		23	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.89		0.59	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.95		0.23	mg/Kg	1	*	6010B	Total/NA
Calcium	9400		590	mg/Kg	1	*	6010B	Total/NA
Chromium	16		0.59	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.8		5.9	mg/Kg	1	*	6010B	Total/NA
Copper	50		2.9	mg/Kg	1	*	6010B	Total/NA
Iron	29000		12	mg/Kg	1	*	6010B	Total/NA
Lead	200		0.35	mg/Kg	1	*	6010B	Total/NA
Magnesium	2400		590	mg/Kg	1	*	6010B	Total/NA
Manganese	790		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	18		4.7	mg/Kg	1	*	6010B	Total/NA
Selenium	0.71		0.59	mg/Kg	1	*	6010B	Total/NA
Titanium	110		5.9	mg/Kg	1	*	6010B	Total/NA
Vanadium	15		5.9	mg/Kg	1	*	6010B	Total/NA
Zinc	170		2.3	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-07.01

Lab Sample ID: 240-27379-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8200		26	mg/Kg	1	*	6010B	Total/NA
Arsenic	15		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	130		26	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.76		0.66	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.86		0.26	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-07.01 (Continued)

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Calcium	2100		660	mg/Kg	1	*	6010B	Total/NA
Chromium	16		0.66	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.5		6.6	mg/Kg	1	*	6010B	Total/NA
Copper	45		3.3	mg/Kg	1	*	6010B	Total/NA
Iron	23000		13	mg/Kg	1	*	6010B	Total/NA
Lead	110		0.40	mg/Kg	1	*	6010B	Total/NA
Magnesium	1100		660	mg/Kg	1	*	6010B	Total/NA
Manganese	920		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	18		5.3	mg/Kg	1	*	6010B	Total/NA
Titanium	62		6.6	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		6.6	mg/Kg	1	*	6010B	Total/NA
Zinc	230		2.6	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-07.03

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8000		23	mg/Kg	1	*	6010B	Total/NA
Arsenic	14		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	130		23	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.78		0.59	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.82		0.23	mg/Kg	1	*	6010B	Total/NA
Calcium	1900		590	mg/Kg	1	*	6010B	Total/NA
Chromium	17		0.59	mg/Kg	1	*	6010B	Total/NA
Cobalt	8.5		5.9	mg/Kg	1	*	6010B	Total/NA
Copper	46		2.9	mg/Kg	1	*	6010B	Total/NA
Iron	24000		12	mg/Kg	1	*	6010B	Total/NA
Lead	100		0.35	mg/Kg	1	*	6010B	Total/NA
Magnesium	1100		590	mg/Kg	1	*	6010B	Total/NA
Manganese	900		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	19		4.7	mg/Kg	1	*	6010B	Total/NA
Titanium	56		5.9	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		6.6	mg/Kg	1	*	6010B	Total/NA
Zinc	220		2.3	mg/Kg	1	*	6010B	Total/NA
Mercury	0.12		0.12	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-08.01

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6900		26	mg/Kg	1	*	6010B	Total/NA
Arsenic	14		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	160		26	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.74		0.65	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.80		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	1600		650	mg/Kg	1	*	6010B	Total/NA
Chromium	17		0.65	mg/Kg	1	*	6010B	Total/NA
Cobalt	7.4		6.5	mg/Kg	1	*	6010B	Total/NA
Copper	27		3.3	mg/Kg	1	*	6010B	Total/NA
Iron	21000		13	mg/Kg	1	*	6010B	Total/NA
Lead	170		0.39	mg/Kg	1	*	6010B	Total/NA
Magnesium	960		650	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-08.01 (Continued)

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	730		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	16		5.2	mg/Kg	1	*	6010B	Total/NA
Selenium	0.70		0.65	mg/Kg	1	*	6010B	Total/NA
Tin	17		13	mg/Kg	1	*	6010B	Total/NA
Titanium	65		6.5	mg/Kg	1	*	6010B	Total/NA
Vanadium	14		6.5	mg/Kg	1	*	6010B	Total/NA
Zinc	130		2.6	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-08.03

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7300		22	mg/Kg	1	*	6010B	Total/NA
Arsenic	15		1.1	mg/Kg	1	*	6010B	Total/NA
Barium	160		22	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.75		0.54	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.82		0.22	mg/Kg	1	*	6010B	Total/NA
Calcium	1400		540	mg/Kg	1	*	6010B	Total/NA
Chromium	18		0.54	mg/Kg	1	*	6010B	Total/NA
Cobalt	7.8		5.4	mg/Kg	1	*	6010B	Total/NA
Copper	27		2.7	mg/Kg	1	*	6010B	Total/NA
Iron	21000		11	mg/Kg	1	*	6010B	Total/NA
Lead	170		0.32	mg/Kg	1	*	6010B	Total/NA
Magnesium	950		540	mg/Kg	1	*	6010B	Total/NA
Manganese	740		1.6	mg/Kg	1	*	6010B	Total/NA
Nickel	17		4.3	mg/Kg	1	*	6010B	Total/NA
Selenium	0.56		0.54	mg/Kg	1	*	6010B	Total/NA
Titanium	69		5.4	mg/Kg	1	*	6010B	Total/NA
Vanadium	15		5.4	mg/Kg	1	*	6010B	Total/NA
Zinc	140		2.2	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-09.01

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7200		28	mg/Kg	1	*	6010B	Total/NA
Arsenic	15		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	77		28	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.67		0.66	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.85		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	3100		660	mg/Kg	1	*	6010B	Total/NA
Chromium	22		0.66	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.5		6.6	mg/Kg	1	*	6010B	Total/NA
Copper	23		3.3	mg/Kg	1	*	6010B	Total/NA
Iron	29000		13	mg/Kg	1	*	6010B	Total/NA
Lead	83		0.39	mg/Kg	1	*	6010B	Total/NA
Magnesium	1300		660	mg/Kg	1	*	6010B	Total/NA
Manganese	810		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	21		5.2	mg/Kg	1	*	6010B	Total/NA
Potassium	720		660	mg/Kg	1	*	6010B	Total/NA
Selenium	0.85		0.66	mg/Kg	1	*	6010B	Total/NA
Titanium	79		6.6	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-09.01 (Continued)

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Vanadium	17		6.6	mg/Kg	1	*	6010B	Total/NA
Zinc	160		2.6	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-09.03

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7500		26	mg/Kg	1	*	6010B	Total/NA
Arsenic	15		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	79		26	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.70		0.64	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.90		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	2600		640	mg/Kg	1	*	6010B	Total/NA
Chromium	21		0.64	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.4		6.4	mg/Kg	1	*	6010B	Total/NA
Copper	23		3.2	mg/Kg	1	*	6010B	Total/NA
Iron	35000		13	mg/Kg	1	*	6010B	Total/NA
Lead	85		0.38	mg/Kg	1	*	6010B	Total/NA
Magnesium	1300		640	mg/Kg	1	*	6010B	Total/NA
Manganese	910		1.9	mg/Kg	1	*	6010B	Total/NA
Nickel	20		5.1	mg/Kg	1	*	6010B	Total/NA
Potassium	740		640	mg/Kg	1	*	6010B	Total/NA
Titanium	88		6.4	mg/Kg	1	*	6010B	Total/NA
Vanadium	18		6.4	mg/Kg	1	*	6010B	Total/NA
Zinc	160		2.6	mg/Kg	1	*	6010B	Total/NA
Mercury	0.12		0.12	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-10.01

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	10000		26	mg/Kg	1	*	6010B	Total/NA
Antimony	2.0		1.3	mg/Kg	1	*	6010B	Total/NA
Arsenic	17		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	240		26	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.2		0.65	mg/Kg	1	*	6010B	Total/NA
Cadmium	2.7		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	35000		650	mg/Kg	1	*	6010B	Total/NA
Chromium	88		0.65	mg/Kg	1	*	6010B	Total/NA
Cobalt	10		6.5	mg/Kg	1	*	6010B	Total/NA
Copper	99		3.3	mg/Kg	1	*	6010B	Total/NA
Iron	27000		13	mg/Kg	1	*	6010B	Total/NA
Lead	340		0.39	mg/Kg	1	*	6010B	Total/NA
Magnesium	6000		650	mg/Kg	1	*	6010B	Total/NA
Manganese	900		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	45		5.2	mg/Kg	1	*	6010B	Total/NA
Potassium	1200		650	mg/Kg	1	*	6010B	Total/NA
Selenium	1.3		0.65	mg/Kg	1	*	6010B	Total/NA
Tin	79		13	mg/Kg	1	*	6010B	Total/NA
Titanium	200		6.5	mg/Kg	1	*	6010B	Total/NA
Vanadium	18		6.5	mg/Kg	1	*	6010B	Total/NA
Zinc	520		2.6	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-10.01 (Continued)

Lab Sample ID: 240-27379-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.38		0.14	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-10.03

Lab Sample ID: 240-27379-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	12000		24	mg/Kg	1	*	6010B	Total/NA
Antimony	1.3		1.2	mg/Kg	1	*	6010B	Total/NA
Arsenic	17		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	250		24	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.5		0.59	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.7		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	45000		590	mg/Kg	1	*	6010B	Total/NA
Chromium	110		0.59	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.5		5.9	mg/Kg	1	*	6010B	Total/NA
Copper	98		2.9	mg/Kg	1	*	6010B	Total/NA
Iron	29000		12	mg/Kg	1	*	6010B	Total/NA
Lead	310		0.35	mg/Kg	1	*	6010B	Total/NA
Magnesium	8400		590	mg/Kg	1	*	6010B	Total/NA
Manganese	1200		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	49		4.7	mg/Kg	1	*	6010B	Total/NA
Potassium	1100		590	mg/Kg	1	*	6010B	Total/NA
Selenium	1.3		0.59	mg/Kg	1	*	6010B	Total/NA
Tin	86		12	mg/Kg	1	*	6010B	Total/NA
Titanium	220		5.9	mg/Kg	1	*	6010B	Total/NA
Vanadium	19		5.9	mg/Kg	1	*	6010B	Total/NA
Zinc	490		2.4	mg/Kg	1	*	6010B	Total/NA
Mercury	0.36		0.13	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-11.01

Lab Sample ID: 240-27379-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	12000		26	mg/Kg	1	*	6010B	Total/NA
Arsenic	15		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	190		26	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.5		0.66	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.2		0.26	mg/Kg	1	*	6010B	Total/NA
Calcium	25000		660	mg/Kg	1	*	6010B	Total/NA
Chromium	38		0.66	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.2		6.6	mg/Kg	1	*	6010B	Total/NA
Copper	74		3.3	mg/Kg	1	*	6010B	Total/NA
Iron	26000		13	mg/Kg	1	*	6010B	Total/NA
Lead	150		0.40	mg/Kg	1	*	6010B	Total/NA
Magnesium	6800		660	mg/Kg	1	*	6010B	Total/NA
Manganese	1600		2.0	mg/Kg	1	*	6010B	Total/NA
Nickel	23		5.3	mg/Kg	1	*	6010B	Total/NA
Potassium	1200		660	mg/Kg	1	*	6010B	Total/NA
Selenium	1.2		0.66	mg/Kg	1	*	6010B	Total/NA
Tin	16		13	mg/Kg	1	*	6010B	Total/NA
Titanium	150		6.6	mg/Kg	1	*	6010B	Total/NA
Vanadium	19		6.6	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-11.01 (Continued)

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Zinc	190		2.6	mg/Kg	1	*	6010B	Total/NA
Mercury	0.20		0.15	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-11.03

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9800		25	mg/Kg	1	*	6010B	Total/NA
Arsenic	17		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	170		25	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.92		0.63	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.2		0.25	mg/Kg	1	*	6010B	Total/NA
Calcium	7800		630	mg/Kg	1	*	6010B	Total/NA
Chromium	38		0.63	mg/Kg	1	*	6010B	Total/NA
Cobalt	10		6.3	mg/Kg	1	*	6010B	Total/NA
Copper	83		3.1	mg/Kg	1	*	6010B	Total/NA
Iron	31000		13	mg/Kg	1	*	6010B	Total/NA
Lead	160		0.38	mg/Kg	1	*	6010B	Total/NA
Magnesium	2600		630	mg/Kg	1	*	6010B	Total/NA
Manganese	1200		1.9	mg/Kg	1	*	6010B	Total/NA
Nickel	28		5.0	mg/Kg	1	*	6010B	Total/NA
Potassium	1000		630	mg/Kg	1	*	6010B	Total/NA
Selenium	0.94		0.63	mg/Kg	1	*	6010B	Total/NA
Tin	15		13	mg/Kg	1	*	6010B	Total/NA
Titanium	120		6.3	mg/Kg	1	*	6010B	Total/NA
Vanadium	22		6.3	mg/Kg	1	*	6010B	Total/NA
Zinc	210		2.5	mg/Kg	1	*	6010B	Total/NA
Mercury	0.18		0.12	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-12.01

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9700		24	mg/Kg	1	*	6010B	Total/NA
Arsenic	9.4		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	94		24	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.44		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	1900		610	mg/Kg	1	*	6010B	Total/NA
Chromium	18		0.61	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.4		6.1	mg/Kg	1	*	6010B	Total/NA
Copper	17		3.0	mg/Kg	1	*	6010B	Total/NA
Iron	23000		12	mg/Kg	1	*	6010B	Total/NA
Lead	24		0.36	mg/Kg	1	*	6010B	Total/NA
Magnesium	1800		610	mg/Kg	1	*	6010B	Total/NA
Manganese	700		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	20		4.8	mg/Kg	1	*	6010B	Total/NA
Potassium	790		610	mg/Kg	1	*	6010B	Total/NA
Titanium	77		6.1	mg/Kg	1	*	6010B	Total/NA
Vanadium	18		6.1	mg/Kg	1	*	6010B	Total/NA
Zinc	110		2.4	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-12.03

Client Sample ID: ELSS-12.03				Lab Sample ID: 240-27379-25			
------------------------------	--	--	--	-----------------------------	--	--	--

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-12.03 (Continued)

Lab Sample ID: 240-27379-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8400		24	mg/Kg	1	*	6010B	Total/NA
Arsenic	9.1		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	95		24	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.44		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	1800		590	mg/Kg	1	*	6010B	Total/NA
Chromium	15		0.59	mg/Kg	1	*	6010B	Total/NA
Cobalt	9.6		5.9	mg/Kg	1	*	6010B	Total/NA
Copper	16		3.0	mg/Kg	1	*	6010B	Total/NA
Iron	23000		12	mg/Kg	1	*	6010B	Total/NA
Lead	25		0.36	mg/Kg	1	*	6010B	Total/NA
Magnesium	1700		590	mg/Kg	1	*	6010B	Total/NA
Manganese	740		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	19		4.8	mg/Kg	1	*	6010B	Total/NA
Selenium	0.59		0.59	mg/Kg	1	*	6010B	Total/NA
Titanium	66		5.9	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		5.9	mg/Kg	1	*	6010B	Total/NA
Zinc	99		2.4	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-13.01

Lab Sample ID: 240-27379-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	12000		29	mg/Kg	1	*	6010B	Total/NA
Arsenic	13		2.9	mg/Kg	2	*	6010B	Total/NA
Barium	140		29	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.4		0.73	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.9		0.29	mg/Kg	1	*	6010B	Total/NA
Calcium	19000		730	mg/Kg	1	*	6010B	Total/NA
Chromium	88		0.73	mg/Kg	1	*	6010B	Total/NA
Cobalt	24		7.3	mg/Kg	1	*	6010B	Total/NA
Copper	45		3.6	mg/Kg	1	*	6010B	Total/NA
Iron	42000		15	mg/Kg	1	*	6010B	Total/NA
Lead	60		0.44	mg/Kg	1	*	6010B	Total/NA
Magnesium	6200		730	mg/Kg	1	*	6010B	Total/NA
Manganese	3200		4.4	mg/Kg	2	*	6010B	Total/NA
Nickel	88		5.8	mg/Kg	1	*	6010B	Total/NA
Potassium	1200		730	mg/Kg	1	*	6010B	Total/NA
Selenium	1.6		1.5	mg/Kg	2	*	6010B	Total/NA
Titanium	140		7.3	mg/Kg	1	*	6010B	Total/NA
Vanadium	37		7.3	mg/Kg	1	*	6010B	Total/NA
Zinc	310		2.9	mg/Kg	1	*	6010B	Total/NA
Mercury	0.54		0.17	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-13.03

Lab Sample ID: 240-27379-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11000		23	mg/Kg	1	*	6010B	Total/NA
Arsenic	8.5		1.1	mg/Kg	1	*	6010B	Total/NA
Barium	130		23	mg/Kg	1	*	6010B	Total/NA
Beryllium	1.3		0.57	mg/Kg	1	*	6010B	Total/NA
Cadmium	1.0		0.23	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.

Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-13.03 (Continued)

Lab Sample ID: 240-27379-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Calcium	27000		570	mg/Kg	1	*	6010B	Total/NA
Chromium	58		0.57	mg/Kg	1	*	6010B	Total/NA
Cobalt	15		5.7	mg/Kg	1	*	6010B	Total/NA
Copper	31		2.8	mg/Kg	1	*	6010B	Total/NA
Iron	26000		11	mg/Kg	1	*	6010B	Total/NA
Lead	39		0.34	mg/Kg	1	*	6010B	Total/NA
Magnesium	6700		570	mg/Kg	1	*	6010B	Total/NA
Manganese	1700		1.7	mg/Kg	1	*	6010B	Total/NA
Nickel	37		4.5	mg/Kg	1	*	6010B	Total/NA
Potassium	990		570	mg/Kg	1	*	6010B	Total/NA
Selenium	0.93		0.57	mg/Kg	1	*	6010B	Total/NA
Titanium	130		5.7	mg/Kg	1	*	6010B	Total/NA
Vanadium	21		5.7	mg/Kg	1	*	6010B	Total/NA
Zinc	210		2.3	mg/Kg	1	*	6010B	Total/NA
Mercury	2.1		0.12	mg/Kg	1	*	7471A	Total/NA

Client Sample ID: ELSS-14.01

Lab Sample ID: 240-27379-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9400		22	mg/Kg	1	*	6010B	Total/NA
Arsenic	11		1.1	mg/Kg	1	*	6010B	Total/NA
Barium	97		22	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.75		0.55	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.46		0.22	mg/Kg	1	*	6010B	Total/NA
Calcium	3600		550	mg/Kg	1	*	6010B	Total/NA
Chromium	29		0.55	mg/Kg	1	*	6010B	Total/NA
Cobalt	13		6.5	mg/Kg	1	*	6010B	Total/NA
Copper	20		2.7	mg/Kg	1	*	6010B	Total/NA
Iron	29000		11	mg/Kg	1	*	6010B	Total/NA
Lead	21		0.33	mg/Kg	1	*	6010B	Total/NA
Magnesium	3300		550	mg/Kg	1	*	6010B	Total/NA
Manganese	770		1.6	mg/Kg	1	*	6010B	Total/NA
Nickel	27		4.4	mg/Kg	1	*	6010B	Total/NA
Potassium	1200		550	mg/Kg	1	*	6010B	Total/NA
Titanium	71		5.5	mg/Kg	1	*	6010B	Total/NA
Vanadium	19		6.5	mg/Kg	1	*	6010B	Total/NA
Zinc	100		2.2	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-14.03

Lab Sample ID: 240-27379-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11000		21	mg/Kg	1	*	6010B	Total/NA
Arsenic	9.9		1.1	mg/Kg	1	*	6010B	Total/NA
Barium	100		21	mg/Kg	1	*	6010B	Total/NA
Beryllium	0.70		0.53	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.36		0.21	mg/Kg	1	*	6010B	Total/NA
Calcium	2700		530	mg/Kg	1	*	6010B	Total/NA
Chromium	27		0.53	mg/Kg	1	*	6010B	Total/NA
Cobalt	15		5.3	mg/Kg	1	*	6010B	Total/NA
Copper	21		2.7	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-14.03 (Continued)

Lab Sample ID: 240-27379-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	30000		11	mg/Kg	1	*	6010B	Total/NA
Lead	16		0.32	mg/Kg	1	*	6010B	Total/NA
Magnesium	3600		530	mg/Kg	1	*	6010B	Total/NA
Manganese	720		1.6	mg/Kg	1	*	6010B	Total/NA
Nickel	31		4.3	mg/Kg	1	*	6010B	Total/NA
Potassium	1300		530	mg/Kg	1	*	6010B	Total/NA
Titanium	65		6.3	mg/Kg	1	*	6010B	Total/NA
Vanadium	20		6.3	mg/Kg	1	*	6010B	Total/NA
Zinc	100		2.1	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-15.01

Lab Sample ID: 240-27379-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6000		25	mg/Kg	1	*	6010B	Total/NA
Arsenic	11		1.3	mg/Kg	1	*	6010B	Total/NA
Barium	66		25	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.35		0.25	mg/Kg	1	*	6010B	Total/NA
Calcium	2000		630	mg/Kg	1	*	6010B	Total/NA
Chromium	40		0.63	mg/Kg	1	*	6010B	Total/NA
Cobalt	11		6.3	mg/Kg	1	*	6010B	Total/NA
Copper	19		3.1	mg/Kg	1	*	6010B	Total/NA
Iron	26000		13	mg/Kg	1	*	6010B	Total/NA
Lead	36		0.38	mg/Kg	1	*	6010B	Total/NA
Magnesium	1600		630	mg/Kg	1	*	6010B	Total/NA
Manganese	1700		1.9	mg/Kg	1	*	6010B	Total/NA
Nickel	21		5.0	mg/Kg	1	*	6010B	Total/NA
Potassium	670		630	mg/Kg	1	*	6010B	Total/NA
Titanium	56		6.3	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		6.3	mg/Kg	1	*	6010B	Total/NA
Zinc	79		2.5	mg/Kg	1	*	6010B	Total/NA

Client Sample ID: ELSS-15.03

Lab Sample ID: 240-27379-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7400		24	mg/Kg	1	*	6010B	Total/NA
Arsenic	11		1.2	mg/Kg	1	*	6010B	Total/NA
Barium	62		24	mg/Kg	1	*	6010B	Total/NA
Cadmium	0.31		0.24	mg/Kg	1	*	6010B	Total/NA
Calcium	5900		610	mg/Kg	1	*	6010B	Total/NA
Chromium	40		0.61	mg/Kg	1	*	6010B	Total/NA
Cobalt	11		6.1	mg/Kg	1	*	6010B	Total/NA
Copper	18		3.1	mg/Kg	1	*	6010B	Total/NA
Iron	27000		12	mg/Kg	1	*	6010B	Total/NA
Lead	36		0.37	mg/Kg	1	*	6010B	Total/NA
Magnesium	2500		610	mg/Kg	1	*	6010B	Total/NA
Manganese	1300		1.8	mg/Kg	1	*	6010B	Total/NA
Nickel	22		4.9	mg/Kg	1	*	6010B	Total/NA
Potassium	620		610	mg/Kg	1	*	6010B	Total/NA
Titanium	58		6.1	mg/Kg	1	*	6010B	Total/NA
Vanadium	16		6.1	mg/Kg	1	*	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-15.03 (Continued)

Lab Sample ID: 240-27379-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Zinc	76		2.4	mg/Kg	1	Q	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELASH-01

Date Collected: 07/29/13 11:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-1

Matrix: Solid

Percent Solids: 97.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil. Fac
Aluminum	13000		20	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Antimony	75		0.98	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Arsenic	1700		9.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Barium	990		20	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Beryllium	0.49 U		0.49	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Cadmium	47		2.0	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Calcium	210000		4900	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Chromium	46		0.49	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Cobalt	77		49	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Copper	2100		25	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Iron	4800		9.8	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Lead	1800		2.9	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Magnesium	5000		490	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Manganese	170		1.5	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Nickel	180		39	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Potassium	8600		490	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Selenium	17		0.49	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Silver	20		0.49	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Sodium	82000		4900	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Thallium	9.8 U		9.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Tin	180		98	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10
Titanium	930		4.9	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Vanadium	86		4.9	mg/Kg	*	07/31/13 10:00	08/01/13 20:18	1
Zinc	4000		20	mg/Kg	*	07/31/13 10:00	08/02/13 13:38	10

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-01.01				Lab Sample ID: 240-27379-2			
Date Collected: 07/30/13 09:25				Matrix: Solid			
Date Received: 07/30/13 13:00				Percent Solids: 75.8			
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed
Aluminum	9600		24	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Antimony	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Arsenic	14		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Barium	140		24	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Beryllium	1.2		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Cadmium	1.2		0.24	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Calcium	9400		590	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Chromium	45		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Cobalt	18		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Copper	49		2.9	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Iron	31000		12	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Lead	100		0.35	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Magnesium	2400		590	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Manganese	1200		1.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Nickel	41		4.7	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Potassium	1100		590	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Selenium	0.84		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Silver	0.59	U	0.59	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Sodium	590	U	590	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Thallium	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Tin	12	U	12	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Titanium	81		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Vanadium	22		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 13:42
Zinc	340		2.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:42

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-01.03

Date Collected: 07/30/13 09:30

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared		Percent Solids: 77.6	Dil Fac
						Prepared	Analyzed		
Aluminum	10000		24	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Antimony	1.2 U		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Arsenic	14		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Barium	140		24	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Beryllium	1.3		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Cadmium	1.2		0.24	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Calcium	8500		600	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Chromium	50		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Cobalt	19		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Copper	50		3.0	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Iron	31000		12	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Lead	110		0.36	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Magnesium	2500		600	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Manganese	1200		1.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Nickel	46		4.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Potassium	1100		600	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Selenium	0.95		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Silver	0.60 U		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Sodium	600 U		600	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Thallium	1.2 U		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Tin	12		12	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Titanium	82		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Vanadium	22		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1
Zinc	330		2.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:54		1

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-02.01

Date Collected: 07/30/13 09:05

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-4

Matrix: Solid

Percent Solids: 72.8

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8800		27	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Antimony	1.4	U	1.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Arsenic	18		1.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Barium	120		27	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Beryllium	1.1		0.68	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Cadmium	1.2		0.27	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Calcium	8800		680	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Chromium	23		0.68	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Cobalt	9.5		6.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Copper	67		3.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Iron	27000		14	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Lead	140		0.41	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Magnesium	2200		680	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Manganese	740		2.0	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Nickel	22		5.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Potassium	680	U	680	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Selenium	0.78		0.68	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Silver	0.68	U	0.68	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Sodium	680	U	680	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Thallium	1.4	U	1.4	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Tin	14	U	14	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Titanium	120		6.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Vanadium	17		6.8	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1
Zinc	230		2.7	mg/Kg	*	07/31/13 10:00	08/02/13 13:58	1



8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-02.03

Date Collected: 07/30/13 09:10

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-5

Matrix: Solid

Percent Solids: 74.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8800		25	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Arsenic	17		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Barium	120		25	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Beryllium	1.1		0.63	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Cadmium	1.1		0.25	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Calcium	9600		630	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Chromium	23		0.63	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Cobalt	8.7		6.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Copper	66		3.1	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Iron	25000		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Lead	130		0.38	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Magnesium	2600		630	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Manganese	720		1.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Nickel	21		5.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Potassium	630	U	630	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Selenium	1.3		0.63	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Silver	0.63	U	0.63	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Sodium	630	U	630	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Tin	13	U	13	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Titanium	110		6.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Vanadium	16		6.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1
Zinc	220		2.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:02	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-03.01

Date Collected: 07/30/13 08:35

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-6

Matrix: Solid

Percent Solids: 76.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8000		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Arsenic	16		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Barium	63		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Beryllium	0.67		0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Cadmium	0.78		0.26	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Calcium	3300		650	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Chromium	19		0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Cobalt	8.8		6.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Copper	59		3.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Iron	29000		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Lead	56		0.39	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Magnesium	1600		650	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Manganese	700		1.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Nickel	18		5.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Potassium	650	U	650	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Selenium	0.65	U	0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Silver	0.65	U	0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Sodium	650	U	650	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Tin	13	U	13	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Titanium	87		6.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Vanadium	18		6.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1
Zinc	140		2.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:07	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-03.03

Lab Sample ID: 240-27379-7

Date Collected: 07/30/13 08:40

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 79.6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7200		24	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Antimony	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Arsenic	14		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Barium	57		24	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Beryllium	0.60		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Cadmium	0.73		0.24	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Calcium	2500		600	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Chromium	16		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Cobalt	8.8		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Copper	56		3.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Iron	26000		12	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Lead	51		0.36	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Magnesium	1300		600	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Manganese	620		1.8	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Nickel	17		4.8	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Potassium	600	U	600	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Selenium	0.66		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Silver	0.60	U	0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Sodium	600	U	600	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Thallium	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Tin	12	U	12	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Titanium	81		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Vanadium	16		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1
Zinc	130		2.4	mg/Kg	*	07/31/13 10:00	08/02/13 14:11	1



8

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-04.01

Lab Sample ID: 240-27379-8

Matrix: Solid

Percent Solids: 71.2

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7000		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Arsenic	21		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Barium	93		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Beryllium	0.64	U	0.64	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Cadmium	0.80		0.26	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Calcium	3300		640	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Chromium	24		0.64	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Cobalt	6.6		6.4	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Copper	78		3.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Iron	26000		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Lead	160		0.39	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Magnesium	1100		640	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Manganese	520		1.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Nickel	16		6.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Potassium	640	U	640	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Selenium	0.83		0.64	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Silver	0.64	U	0.64	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Sodium	640	U	640	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Tin	13		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Titanium	100		6.4	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Vanadium	17		6.4	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1
Zinc	160		2.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:15	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-04.03

Date Collected: 07/30/13 08:20

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-9

Matrix: Solid

Percent Solids: 73.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7200		27	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Arsenic	22		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Barium	100		27	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Beryllium	0.71		0.67	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Cadmium	0.67		0.27	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Calcium	2500		670	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Chromium	25		0.67	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Cobalt	6.7	U	6.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Copper	83		3.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Iron	33000		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Lead	160		0.40	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Magnesium	1000		670	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Manganese	500		2.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Nickel	17		5.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Potassium	670	U	670	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Selenium	1.0		0.67	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Silver	0.67	U	0.67	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Sodium	670	U	670	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Tin	18		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Titanium	100		6.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Vanadium	19		6.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1
Zinc	140		2.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:19	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-05.01

Date Collected: 07/29/13 15:55

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	Lab Sample ID: 240-27379-10		Percent Solids: 81.9	Dil Fac
					D	Prepared		
Aluminum	6400		21	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Antimony	1.1	U	1.1	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Arsenic	15		1.1	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Barium	99		21	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Beryllium	0.76		0.53	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Cadmium	0.62		0.21	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Calcium	1500		530	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Chromium	17		0.53	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Cobalt	7.6		6.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Copper	22		2.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Iron	23000		11	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Lead	97		0.32	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Magnesium	940		530	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Manganese	630		1.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Nickel	16		4.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Potassium	530	U	530	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Selenium	0.60		0.53	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Silver	0.53	U	0.53	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Sodium	530	U	530	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Thallium	1.1	U	1.1	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Tin	11	U	11	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Titanium	51		5.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Vanadium	15		5.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1
Zinc	86		2.1	mg/Kg	*	07/31/13 10:00	08/02/13 14:23	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-05.03

Date Collected: 07/29/13 16:00

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Lab Sample ID: 240-27379-11		Percent Solids: 81.1	Dil Fac
						Prepared	Analyzed		
Aluminum	6800		23	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Antimony	1.1	U	1.1	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Arsenic	14		1.1	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Barium	99		23	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Beryllium	0.74		0.57	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Cadmium	0.58		0.23	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Calcium	1900		570	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Chromium	22		0.57	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Cobalt	7.4		6.7	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Copper	21		2.9	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Iron	23000		11	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Lead	95		0.34	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Magnesium	1000		570	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Manganese	700		1.7	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Nickel	17		4.6	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Potassium	570	U	570	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Selenium	0.57	U	0.57	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Silver	0.57	U	0.57	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Sodium	570	U	570	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Thallium	1.1	U	1.1	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Tin	11	U	11	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Titanium	65		6.7	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Vanadium	15		5.7	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1
Zinc	84		2.3	mg/Kg	♂	07/31/13 10:00	08/02/13 14:27		1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-06.01

Date Collected: 07/30/13 07:45

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-12

Matrix: Solid

Percent Solids: 78.0

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7500		24	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Antimony	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Arsenic	57		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Barium	81		24	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Beryllium	0.69		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Cadmium	0.86		0.24	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Calcium	3000		600	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Chromium	16		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Cobalt	8.8		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Copper	53		3.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Iron	27000		12	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Lead	220		0.36	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Magnesium	1300		600	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Manganese	660		1.8	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Nickel	17		4.8	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Potassium	650		600	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Selenium	0.67		0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Silver	0.60	U	0.60	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Sodium	600	U	600	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Thallium	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Tin	12	U	12	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Titanium	81		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Vanadium	17		6.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1
Zinc	170		2.4	mg/Kg	*	07/31/13 10:00	08/02/13 14:31	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-06.03

Date Collected: 07/30/13 07:50

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-13

Matrix: Solid

Percent Solids: 83.8

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8700		23	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Antimony	1.2 U		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Arsenic	53		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Barium	90		23	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Beryllium	0.89		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Cadmium	0.95		0.23	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Calcium	9400		590	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Chromium	16		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Cobalt	8.8		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Copper	50		2.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Iron	29000		12	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Lead	200		0.35	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Magnesium	2400		590	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Manganese	790		1.8	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Nickel	18		4.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Potassium	590 U		590	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Selenium	0.71		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Silver	0.59 U		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Sodium	590 U		590	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Thallium	1.2 U		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Tin	12 U		12	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Titanium	110		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Vanadium	15		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1
Zinc	170		2.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:44	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-07.01

Date Collected: 07/29/13 15:30

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier.	RL	Unit	D	Lab Sample ID: 240-27379-14		Percent Solids: 75.0	Dil Fac
						Prepared	Analyzed		
Aluminum	8200		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Arsenic	15		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Barium	130		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Beryllium	0.76		0.66	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Cadmium	0.86		0.26	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Calcium	2100		660	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Chromium	16		0.66	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Cobalt	8.5		6.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Copper	45		3.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Iron	23000		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Lead	110		0.40	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Magnesium	1100		660	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Manganese	920		2.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Nickel	18		5.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Potassium	660	U	660	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Selenium	0.66	U	0.66	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Silver	0.66	U	0.66	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Sodium	660	U	660	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Tin	13	U	13	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Titanium	62		6.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Vanadium	16		6.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1
Zinc	230		2.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:48		1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-07.03

Date Collected: 07/29/13 15:35

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-15

Matrix: Solid

Percent Solids: 79.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8000		23	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Antimony	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Arsenic	14		1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Barium	130		23	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Beryllium	0.78		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Cadmium	0.82		0.23	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Calcium	1900		590	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Chromium	17		0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Cobalt	8.6		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Copper	46		2.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Iron	24000		12	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Lead	100		0.35	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Magnesium	1100		590	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Manganese	900		1.8	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Nickel	19		4.7	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Potassium	590	U	590	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Selenium	0.59	U	0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Silver	0.59	U	0.59	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Sodium	590	U	590	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Thallium	1.2	U	1.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Tin	12	U	12	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Titanium	56		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Vanadium	16		5.9	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1
Zinc	220		2.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:52	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-08.01

Date Collected: 07/29/13 14:20

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Lab Sample ID: 240-27379-16		Percent Solids: 75.2	Dil Fac
						Prepared	Analyzed		
Aluminum	6900		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Arsenic	14		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Barium	160		26	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Beryllium	0.74		0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Cadmium	0.80		0.26	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Calcium	1600		650	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Chromium	17		0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Cobalt	7.4		6.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Copper	27		3.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Iron	21000		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Lead	170		0.39	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Magnesium	960		650	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Manganese	730		2.0	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Nickel	16		5.2	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Potassium	650	U	650	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Selenium	0.70		0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Silver	0.65	U	0.65	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Sodium	650	U	650	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Tin	17		13	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Titanium	65		6.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Vanadium	14		6.5	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1
Zinc	130		2.6	mg/Kg	*	07/31/13 10:00	08/02/13 14:56		1



8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-08.03

Date Collected: 07/29/13 14:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-17

Matrix: Solid

Percent Solids: 78.3

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7300		22	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Antimony	1.1	U	1.1	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Arsenic	15		1.1	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Barium	160		22	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Beryllium	0.76		0.54	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Cadmium	0.82		0.22	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Calcium	1400		540	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Chromium	18		0.54	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Cobalt	7.8		5.4	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Copper	27		2.7	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Iron	21000		11	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Lead	170		0.32	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Magnesium	950		540	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Manganese	740		1.6	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Nickel	17		4.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Potassium	540	U	540	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Selenium	0.56		0.54	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Silver	0.54	U	0.54	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Sodium	540	U	540	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Thallium	1.1	U	1.1	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Tin	11	U	11	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Titanium	69		5.4	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Vanadium	15		5.4	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1
Zinc	140		2.2	mg/Kg	*	07/31/13 10:00	08/02/13 15:00	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-09.01

Date Collected: 07/29/13 15:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-18

Matrix: Solid

Percent Solids: 75.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7200		26	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Arsenic	15		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Barium	77		26	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Beryllium	0.67		0.66	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Cadmium	0.85		0.26	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Calcium	3100		660	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Chromium	22		0.66	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Cobalt	9.5		6.6	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Copper	23		3.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Iron	29000		13	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Lead	83		0.39	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Magnesium	1300		660	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Manganese	810		2.0	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Nickel	21		5.2	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Potassium	720		660	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Selenium	0.85		0.66	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Silver	0.66	U	0.66	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Sodium	660	U	660	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Tin	13	U	13	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Titanium	79		6.6	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Vanadium	17		6.6	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1
Zinc	160		2.6	mg/Kg	*	07/31/13 10:00	08/02/13 15:04	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-09.03

Date Collected: 07/29/13 15:05

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	Lab Sample ID: 240-27379-19		Percent Solids: 74.4	Dil Fac
					D	Prepared		
Aluminum	7500		26	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Arsenic	15		1.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Barium	79		26	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Beryllium	0.70		0.64	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Cadmium	0.90		0.26	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Calcium	2600		640	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Chromium	21		0.64	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Cobalt	9.4		6.4	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Copper	23		3.2	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Iron	35000		13	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Lead	86		0.38	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Magnesium	1300		640	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Manganese	910		1.9	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Nickel	20		5.1	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Potassium	740		640	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Selenium	0.64	U	0.64	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Silver	0.64	U	0.64	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Sodium	640	U	640	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Tin	13	U	13	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Titanium	88		6.4	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Vanadium	18		6.4	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1
Zinc	160		2.6	mg/Kg	*	07/31/13 10:00	08/02/13 15:08	1



8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-10.01

Date Collected: 07/29/13 13:50

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-20

Matrix: Solid

Percent Solids: 74.4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	10000		26	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Antimony	2.0		1.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Arsenic	17		1.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Barium	240		26	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Beryllium	1.2		0.65	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Cadmium	2.7		0.26	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Calcium	35000		650	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Chromium	88		0.65	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Cobalt	10		6.5	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Copper	99		3.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Iron	27000		13	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Lead	340		0.39	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Magnesium	6000		650	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Manganese	900		2.0	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Nickel	45		5.2	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Potassium	1200		650	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Selenium	1.3		0.65	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Silver	0.65 U		0.65	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Sodium	650 U		650	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Thallium	1.3 U		1.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Tin	79		13	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Titanium	200		6.5	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Vanadium	18		6.5	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1
Zinc	520		2.6	mg/Kg	✉	07/31/13 11:33	08/01/13 18:33	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-10.03

Date Collected: 07/29/13 14:00

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	DLI Fac
Aluminum	12000		24	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Antimony	1.3		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Arsenic	17		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Barium	250		24	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Beryllium	1.6		0.59	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Cadmium	1.7		0.24	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Calcium	45000		590	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Chromium	110		0.59	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Cobalt	9.6		6.9	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Copper	98		2.9	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Iron	29000		12	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Lead	310		0.35	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Magnesium	8400		590	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Manganese	1200		1.8	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Nickel	49		4.7	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Potassium	1100		590	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Selenium	1.3		0.59	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Silver	0.59 U		0.59	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Sodium	590 U		590	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Thallium	1.2 U		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Tin	86		12	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Titanium	220		5.9	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Vanadium	19		5.9	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1
Zinc	490		2.4	mg/Kg	*	07/31/13 11:33	08/01/13 18:38	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-11.01

Date Collected: 07/30/13 10:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-22

Matrix: Solid

Percent Solids: 75.1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12000		26	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Arsenic	15		1.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Barium	190		26	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Beryllium	1.5		0.66	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Cadmium	1.2		0.26	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Calcium	25000		660	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Chromium	38		0.66	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Cobalt	9.2		6.6	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Copper	74		3.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Iron	26000		13	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Lead	150		0.40	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Magnesium	6800		660	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Manganese	1600		2.0	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Nickel	23		5.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Potassium	1200		660	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Selenium	1.2		0.66	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Silver	0.66	U	0.66	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Sodium	660	U	660	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Tin	16		13	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Titanium	150		6.6	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Vanadium	19		6.6	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1
Zinc	190		2.6	mg/Kg	*	07/31/13 11:33	08/01/13 18:50	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-11.03

Date Collected: 07/30/13 10:30

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-23

Matrix: Solid

Percent Solids: 78.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9800		25	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Antimony	1.3	U	1.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Arsenic	17		1.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Barium	170		25	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Beryllium	0.92		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Cadmium	1.2		0.25	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Calcium	7800		630	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Chromium	38		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Cobalt	10		6.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Copper	83		3.1	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Iron	31000		13	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Lead	160		0.38	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Magnesium	2500		630	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Manganese	1200		1.9	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Nickel	28		5.0	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Potassium	1000		630	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Selenium	0.94		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Silver	0.63	U	0.63	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Sodium	630	U	630	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Thallium	1.3	U	1.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Tin	16		13	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Titanium	120		6.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Vanadium	22		6.3	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1
Zinc	210		2.5	mg/Kg	*	07/31/13 11:33	08/01/13 18:55	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-12.01

Date Collected: 07/30/13 09:55

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared		Percent Solids: 79.4	Dil Fac
						Analyzed	Dilution Factor		
Aluminum	9700		24	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Antimony	1.2 U		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Arsenic	9.4		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Barium	94		24	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Beryllium	0.61 U		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Cadmium	0.44		0.24	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Calcium	1900		610	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Chromium	18		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Cobalt	9.4		6.1	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Copper	17		3.0	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Iron	23000		12	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Lead	24		0.36	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Magnesium	1800		610	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Manganese	700		1.8	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Nickel	20		4.8	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Potassium	790		610	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Selenium	0.61 U		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Silver	0.61 U		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Sodium	610 U		610	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Thallium	1.2 U		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Tin	12 U		12	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Titanium	77		6.1	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Vanadium	18		6.1	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1
Zinc	110		2.4	mg/Kg	*	07/31/13 11:33	08/01/13 18:59		1



8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-12.03

Date Collected: 07/30/13 10:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-25

Matrix: Solid

Percent Solids: 81.6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8400		24	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Antimony	1.2 U	US 4	1.2	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Arsenic	9.1		1.2	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Barium	95		24	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Beryllium	0.59 U		0.59	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Cadmium	0.44		0.24	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Calcium	1800		590	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Chromium	15		0.59	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Cobalt	9.6		5.9	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Copper	16		3.0	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Iron	23000		12	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Lead	25 J-4		0.36	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Magnesium	1700		590	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Manganese	740		1.8	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Nickel	19		4.8	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Potassium	590 U		590	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Selenium	0.59		0.59	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Silver	0.59 U		0.59	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Sodium	590 U		590	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Thallium	1.2 U		1.2	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Tin	12 U		12	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Titanium	66		5.9	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Vanadium	16		5.9	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1
Zinc	99		2.4	mg/Kg	☒	07/31/13 10:00	08/01/13 20:02	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-13.01

Date Collected: 07/29/13 12:05

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared		Percent Solids: 66.5	Dil Fac	Lab Sample ID: 240-27379-26	Matrix: Solid
						Analyzed	08/01/13 19:03				
Aluminum	12000		29	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Antimony	1.5	U	1.5	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Arsenic	13		2.9	mg/Kg	*	07/31/13 11:33	08/02/13 13:22		2		
Barium	140		29	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Beryllium	1.4		0.73	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Cadmium	1.9		0.29	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Calcium	19000		730	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Chromium	88		0.73	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Cobalt	24		7.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Copper	45		3.6	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Iron	42000		15	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Lead	60		0.44	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Magnesium	6200		730	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Manganese	3200		4.4	mg/Kg	*	07/31/13 11:33	08/02/13 13:22		2		
Nickel	88		5.8	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Potassium	1200		730	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Selenium	1.6		1.5	mg/Kg	*	07/31/13 11:33	08/02/13 13:22		2		
Silver	0.73	U	0.73	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Sodium	730	U	730	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Thallium	2.9	U	2.9	mg/Kg	*	07/31/13 11:33	08/02/13 13:22		2		
Tin	15	U	15	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Titanium	140		7.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Vanadium	37		7.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		
Zinc	310		2.9	mg/Kg	*	07/31/13 11:33	08/01/13 19:03		1		

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-13.03

Date Collected: 07/29/13 12:15

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-27

Matrix: Solid

Percent Solids: 79.7

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Off Fac
Aluminum	11000		23	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Antimony	1.1	U	1.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Arsenic	8.5		1.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Barium	130		23	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Beryllium	1.3		0.57	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Cadmium	1.0		0.23	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Calcium	27000		570	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Chromium	58		0.57	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Cobalt	15		5.7	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Copper	31		2.8	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Iron	26000		11	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Lead	39		0.34	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Magnesium	6700		570	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Manganese	1700		1.7	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Nickel	37		4.5	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Potassium	990		570	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Selenium	0.93		0.57	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Silver	0.57	U	0.57	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Sodium	570	U	570	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Thallium	1.1	U	1.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Tin	11	U	11	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Titanium	130		5.7	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Vanadium	21		5.7	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1
Zinc	210		2.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:07	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-14.01

Date Collected: 07/29/13 11:30

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-28

Matrix: Solid

Percent Solids: 83.1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9400		22	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Antimony	1.1	U	1.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Arsenic	11		1.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Barium	97		22	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Beryllium	0.75		0.55	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Cadmium	0.46		0.22	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Calcium	3600		550	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Chromium	29		0.55	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Cobalt	13		5.5	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Copper	20		2.7	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Iron	29000		11	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Lead	21		0.33	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Magnesium	3300		550	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Manganese	770		1.6	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Nickel	27		4.4	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Potassium	1200		550	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Selenium	0.55	U	0.55	mg/Kg	*	07/31/13 11:33	08/02/13 13:26	1
Silver	0.55	U	0.55	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Sodium	550	U	550	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Thallium	1.1	U	1.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Tin	11	U	11	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Titanium	71		5.5	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Vanadium	19		5.5	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1
Zinc	100		2.2	mg/Kg	*	07/31/13 11:33	08/01/13 19:12	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-14.03

Date Collected: 07/29/13 11:35

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-29

Matrix: Solid

Percent Solids: 87.8

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000		21	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Antimony	1.1	U <i>J-4</i>	1.1	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Arsenic	9.9		1.1	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Barium	100	<i>J-4</i>	21	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Beryllium	0.70		0.53	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Cadmium	0.36		0.21	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Calcium	2700	<i>J-4</i>	530	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Chromium	27	<i>J-4</i>	0.53	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Cobalt	15		5.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Copper	21	<i>J-4</i>	2.7	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Iron	30000		11	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Lead	16	<i>J-4</i>	0.32	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Magnesium	3600	<i>J-4</i>	530	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Manganese	720		1.6	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Nickel	31		4.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Potassium	1300	<i>J-4</i>	530	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Selenium	0.53	U	0.53	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Silver	0.53	U	0.53	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Sodium	530	U	530	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Thallium	1.1	U	1.1	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Tin	11	U	11	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Titanium	65	<i>J-4</i>	5.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Vanadium	20		5.3	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1
Zinc	100	<i>J-4</i>	2.1	mg/Kg	✉	07/31/13 11:33	08/01/13 18:17	1

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-15.01

Date Collected: 07/29/13 10:50

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-30

Matrix: Solid

Percent Solids: 78.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6000		25	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Antimony	1.3 U		1.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Arsenic	11		1.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Barium	66		25	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Beryllium	0.63 U		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Cadmium	0.35		0.25	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Calcium	2000		630	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Chromium	40		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Cobalt	11		6.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Copper	19		3.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Iron	26000		13	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Lead	36		0.38	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Magnesium	1600		630	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Manganese	1700		1.9	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Nickel	21		5.0	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Potassium	670		630	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Selenium	0.63 U		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Silver	0.63 U		0.63	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Sodium	630 U		630	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Thallium	1.3 U		1.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Tin	13 U		13	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Titanium	56		6.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Vanadium	16		6.3	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1
Zinc	79		2.5	mg/Kg	*	07/31/13 11:33	08/01/13 19:16	1



8



REF



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Client Sample ID: ELSS-15.03

Date Collected: 07/29/13 11:05

Date Received: 07/30/13 13:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared		Percent Solids: 80.2	Dil Fac
						Analyzed	08/01/13 19:20		
Aluminum	7400		24	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Antimony	1.2 U		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Arsenic	11		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Barium	62		24	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Beryllium	0.61 U		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Cadmium	0.31		0.24	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Calcium	5900		610	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Chromium	40		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Cobalt	11		6.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Copper	18		3.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Iron	27000		12	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Lead	36		0.37	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Magnesium	2500		610	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Manganese	1300		1.8	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Nickel	22		4.9	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Potassium	620		610	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Selenium	0.61 U		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Silver	0.61 U		0.61	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Sodium	610 U		610	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Thallium	1.2 U		1.2	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Tin	12 U		12	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Titanium	58		6.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Vanadium	16		6.1	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	
Zinc	76		2.4	mg/Kg	*	07/31/13 11:33	08/01/13 19:20	1	



8

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELASH-01

Date Collected: 07/29/13 11:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-1

Matrix: Solid

Percent Solids: 97.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	6.7		0.12	mg/Kg	X	07/31/13 14:25	08/01/13 14:51	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-01.01

Date Collected: 07/30/13 09:26

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-2

Matrix: Solid

Percent Solids: 75.8

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Oil Fac
Mercury	0.15	U	0.15	mg/Kg	<input checked="" type="checkbox"/>	07/31/13 14:25	08/01/13 14:53	1

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-01.03

Date Collected: 07/30/13 09:30

Date Received: 07/30/13 13:00

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac
Mercury 0.14 0.13 mg/Kg * 07/31/13 14:25 08/01/13 14:55 1

8

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-02.01							Lab Sample ID: 240-27379-4			
Date Collected: 07/30/13 09:05							Matrix: Solid			
Date Received: 07/30/13 13:00							Percent Solids: 72.8			
Analyte	Result	Qualifier		RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.15	U		0.15		mg/Kg	*	07/31/13 14:25	08/01/13 14:57	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-02.03

Date Collected: 07/30/13 09:10

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-5

Matrix: Solid

Percent Solids: 74.9

Analyte

Result Qualifier

RL

Unit

D

Prepared

Analyzed

Dil Fac

Mercury

0.13 U

0.13

mg/Kg

X

07/31/13 14:25

08/01/13 14:59

1

8

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-03.01	Lab Sample ID: 240-27379-6
Date Collected: 07/30/13 08:35	Matrix: Solid
Date Received: 07/30/13 13:00	Percent Solids: 76.5
Analyte	Result Qualifier
Mercury	0.15 U
	RL
	0.15
	Unit
	mg/Kg
	D
	Prepared
	07/31/13 14:25
	Analyzed
	08/01/13 15:05
	Dil Fac
	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-03.03

Date Collected: 07/30/13 08:40

Date Received: 07/30/13 13:00

Analyte

Mercury

Result

0.14

Qualifier

U

RL

0.14

Unit

mg/Kg

D

Prepared

07/31/13 14:25

Lab Sample ID: 240-27379-7

Matrix: Solid

Percent Solids: 79.6

Analyzed

08/01/13 15:08

DLI Fac

1

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-04.01

Date Collected: 07/30/13 08:10

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-8

Matrix: Solid

Percent Solids: 71.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.13	mg/Kg	*	07/31/13 14:25	08/01/13 15:10	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-04.03

Date Collected: 07/30/13 08:20

Date Received: 07/30/13 13:00

Analyte

Results

Alt Qualifier

R

Uni

t

Lab Sample ID: 240-27379-9

Matrix: Solid

Percent Solids: 73.5

D Prepared

Analyzed

Oil Fac

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-05.01

Date Collected: 07/29/13 15:56

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-10

Matrix: Solid

Percent Solids: 81.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20		0.14	mg/Kg	*	07/31/13 14:25	08/01/13 15:14	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-05.03

Date Collected: 07/29/13 16:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-11

Matrix: Solid

Percent Solids: 81.1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.23		0.12	mg/Kg	*	07/31/13 14:25	08/01/13 15:17	1

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-06.01

Date Collected: 07/30/13 07:45

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-12

Matrix: Solid

Percent Solids: 78.0

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14	U	0.14	mg/Kg	07/31/13 14:25	08/01/13 15:19		1

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-06.03	Lab Sample ID: 240-27379-13
Date Collected: 07/30/13 07:50	Matrix: Solid
Date Received: 07/30/13 13:00	Percent Solids: 83.8
Analyte	Result Qualifier
Mercury	0.13 U
	RL
	0.13
	Unit
	mg/Kg
	D
	Prepared
	07/31/13 14:25
	Analyzed
	08/01/13 15:21
	Dil Fac
	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-07.01

Date Collected: 07/29/13 15:30

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-14

Matrix: Solid

Percent Solids: 75.0

Analyte

Result Qualifier

RL

Unit

D

Prepared

Analyzed

Dil Fac

Mercury

0.15

U

0.15

mg/Kg

X

07/31/13 14:26

08/01/13 15:23

1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-07.03 Date Collected: 07/29/13 15:35 Date Received: 07/30/13 13:00				Lab Sample ID: 240-27379-15 Matrix: Solid Percent Solids: 79.9				
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.12	mg/Kg	<input checked="" type="checkbox"/>	07/31/13 14:25	08/01/13 15:25	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-08.01

Date Collected: 07/29/13 14:20

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-16

Matrix: Solid

Percent Solids: 75.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.15	U	0.15	mg/Kg	*	07/31/13 14:25	08/01/13 15:31	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-08.03						Lab Sample ID: 240-27379-17					
Date Collected: 07/29/13 14:25						Matrix: Solid					
Date Received: 07/30/13 13:00						Percent Solids: 78.3					
Analyte	Result	Qualifier		RL		Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	0.13	U		0.13		mg/Kg	*	07/31/13 14:25	08/01/13 15:33	1	



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-09.01

Date Collected: 07/29/13 15:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-18

Matrix: Solid

Percent Solids: 75.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14	U	0.14	mg/Kg	8	07/31/13 14:25	08/01/13 15:35	1



Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-09.03

Date Collected: 07/29/13 15:05

Date Received: 07/30/13 13:00

Analyte

Mercury

Result

0.12

Qualifier

RL

0.12

Unit

mg/Kg

D



Prepared

07/31/13 14:25

Lab Sample ID: 240-27379-19

Matrix: Solid

Percent Solids: 74.4

Analyzed

08/01/13 15:37

1

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-10.01

Date Collected: 07/29/13 13:50

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-20

Matrix: Solid

Percent Solids: 74.4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.14	mg/Kg	*	07/31/13 14:25	08/01/13 13:20	1

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-10.03

Date Collected: 07/29/13 14:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-21

Matrix: Solid

Percent Solids: 80.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.36		0.13	mg/Kg	X	07/31/13 14:25	08/01/13 13:23	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-11.01

Date Collected: 07/30/13 10:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-22

Matrix: Solid

Percent Solids: 75.1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20		0.15	mg/Kg	♂	07/31/13 14:25	08/01/13 14:05	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-11.03

Date Collected: 07/30/13 10:30

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-23

Matrix: Solid

Percent Solids: 78.9

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.18		0.12	mg/Kg	X	07/31/13 14:25	08/01/13 14:07	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-12.01

Date Collected: 07/30/13 09:55

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-24

Matrix: Solid

Percent Solids: 79.4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.15	U	0.15	mg/Kg	✓	07/31/13 14:25	08/01/13 14:09	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-12.03

Date Collected: 07/30/13 10:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-25

Matrix: Solid

Percent Solids: 81.6

Analyte

Result Qualifier

RL

Unit

D

Prepared

07/31/13 14:25

Mercury

0.13 U

0.13

mg/Kg

✓

08/01/13 14:45

Analyzed

1

Dil Fac

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-13.01

Date Collected: 07/29/13 12:05

Date Received: 07/30/13 13:00

Analyte

Mercury

Result

0.54

Qualifier

RL

0.17

Unit

mg/Kg

D

☒

Prepared

07/31/13 14:25

Lab Sample ID: 240-27379-26

Matrix: Solid

Percent Solids: 66.5

Analyzed

08/01/13 14:12

Dil Fac

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-13.03

Date Collected: 07/29/13 12:15

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-27

Matrix: Solid

Percent Solids: 79.7

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.1		0.12	mg/Kg	<input checked="" type="checkbox"/>	07/31/13 14:25	08/01/13 14:14	1



8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-14.01

Lab Sample ID: 240-27379-28

Date Collected: 07/29/13 11:30

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 83.1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11	U	0.11	mg/Kg	X	07/31/13 14:25	08/01/13 14:16	1



TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-14.03

Date Collected: 07/29/13 11:35

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-29

Matrix: Solid

Percent Solids: 87.8

Analyte

Result Qualifier

RL

Unit

D

Prepared

Analyzed

Dil Fac

Mercury

0.12 U

0.12

mg/Kg

*

07/31/13 14:25

08/01/13 13:15

1

8

TestAmerica Canton

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-15.01

Date Collected: 07/29/13 10:50

Date Received: 07/30/13 13:00

Analyte

Mercury

Result

0.13

Qualifier

U

RL

0.13

Unit

mg/Kg

D

*

Prepared

07/31/13 14:25

Lab Sample ID: 240-27379-30

Matrix: Solid

Percent Solids: 78.2

Analyzed

08/01/13 14:18

Dil Fac

8

Client Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: ELSS-15.03

Date Collected: 07/29/13 11:05

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-31

Matrix: Solid

Percent Solids: 80.2

Analyte

Result Qualifier

RL

Unit

D

Prepared

Analyzed

Dil Fac

Mercury

0.12 U

0.12

mg/Kg

07/31/13 14:25

08/01/13 14:20

1



TestAmerica Canton

QC Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-95626/1-A

Matrix: Solid

Analysis Batch: 95922

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95626

Analyte	MB	MB	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum		20	U		20	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Antimony		1.0	U		1.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Arsenic		1.0	U		1.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Barium		20	U		20	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Beryllium		0.50	U		0.50	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Cadmium		0.20	U		0.20	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Calcium		500	U		500	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Chromium		0.50	U		0.50	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Cobalt		5.0	U		5.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Copper		2.5	U		2.5	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Iron		10	U		10	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Lead		0.30	U		0.30	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Magnesium		500	U		500	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Manganese		1.5	U		1.5	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Nickel		4.0	U		4.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Potassium		500	U		500	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Selenium		0.50	U		0.50	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Silver		0.50	U		0.50	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Sodium		500	U		500	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Thallium		1.0	U		1.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Tin		10	U		10	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Titanium		5.0	U		5.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Vanadium		5.0	U		5.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1
Zinc		2.0	U		2.0	mg/Kg	07/31/13 10:00	08/01/13 19:54		1

Lab Sample ID: LCS 240-95626/2-A

Matrix: Solid

Analysis Batch: 95922

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95626

Analyte	Spike Added	LCS			Unit	D	%Rec	Limits
		Result	Qualifier	%Rec				
Aluminum	200	196		99	mg/Kg		80 - 120	
Antimony	50.0	48.4		97	mg/Kg		80 - 120	
Arsenic	200	196		98	mg/Kg		80 - 120	
Barium	200	190		95	mg/Kg		80 - 120	
Beryllium	5.00	4.76		95	mg/Kg		80 - 120	
Cadmium	5.00	4.91		98	mg/Kg		80 - 120	
Calcium	5000	5020		100	mg/Kg		80 - 120	
Chromium	20.0	19.9		99	mg/Kg		80 - 120	
Cobalt	50.0	49.0		98	mg/Kg		80 - 120	
Copper	25.0	24.3		97	mg/Kg		80 - 120	
Iron	100	102		102	mg/Kg		80 - 120	
Lead	50.0	47.4		95	mg/Kg		80 - 120	
Magnesium	5000	5080		102	mg/Kg		80 - 120	
Manganese	50.0	49.4		99	mg/Kg		80 - 120	
Nickel	50.0	49.6		99	mg/Kg		80 - 120	
Potassium	5000	4890		98	mg/Kg		80 - 120	
Selenium	200	190		95	mg/Kg		80 - 120	
Silver	5.00	4.90		98	mg/Kg		80 - 120	

TestAmerica Canton

QC Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1



Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-95626/2-A				Client Sample ID: Lab Control Sample					
Matrix: Solid				Prep Type: Total/NA					
Analysis Batch: 95922				Prep Batch: 95626					
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.		
Sodium	5000	4900		mg/Kg	*	98	80 - 120		
Thallium	200	187		mg/Kg	*	93	80 - 120		
Tin	200	199		mg/Kg	*	99	80 - 120		
Titanium	100	99.0		mg/Kg	*	99	80 - 120		
Vanadium	50.0	49.7		mg/Kg	*	99	80 - 120		
Zinc	50.0	50.4		mg/Kg	*	101	80 - 120		

Lab Sample ID: 240-27379-25 MS

Matrix: Solid				Client Sample ID: ELSS-12.03					
Analysis Batch: 95922				Prep Type: Total/NA					
				Prep Batch: 95626					
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aluminum	8400		233	11500	4	mg/Kg	*	1299	75 - 125
Antimony	1.2	U	58.3	20.1	F	mg/Kg	*	34	75 - 125
Arsenic	9.1		233	195		mg/Kg	*	80	75 - 125
Barium	95		233	277		mg/Kg	*	78	75 - 125
Beryllium	0.59	U	5.83	5.11		mg/Kg	*	78	75 - 125
Cadmium	0.44		5.83	5.14		mg/Kg	*	80	75 - 125
Calcium	1800		5830	6420		mg/Kg	*	79	75 - 125
Chromium	15		23.3	36.0		mg/Kg	*	91	75 - 125
Cobalt	9.6		58.3	63.3		mg/Kg	*	92	75 - 125
Copper	16		29.2	39.5		mg/Kg	*	79	75 - 125
Iron	23000		117	22200	4	mg/Kg	*	-460	75 - 125
Lead	25		58.3	67.0	F	mg/Kg	*	73	75 - 125
Magnesium	1700		5830	6640		mg/Kg	*	85	75 - 125
Manganese	740		58.3	765	4	mg/Kg	*	46	75 - 125
Nickel	19		58.3	74.4		mg/Kg	*	95	75 - 125
Potassium	590	U	5830	5420		mg/Kg	*	83	75 - 125
Selenium	0.59		233	180		mg/Kg	*	77	75 - 125
Silver	0.59	U	5.83	4.71		mg/Kg	*	81	75 - 125
Sodium	590	U	5830	4670		mg/Kg	*	80	75 - 125
Thallium	1.2	U	233	199		mg/Kg	*	85	75 - 125
Tin	12	U	233	204		mg/Kg	*	86	75 - 125
Titanium	66		117	164		mg/Kg	*	84	75 - 125
Vanadium	16		58.3	65.9		mg/Kg	*	85	75 - 125
Zinc	99		58.3	165		mg/Kg	*	114	75 - 125

Lab Sample ID: 240-27379-25 MSD

Matrix: Solid				Client Sample ID: ELSS-12.03					
Analysis Batch: 95922				Prep Type: Total/NA					
				Prep Batch: 95626					
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	RPD
Aluminum	8400		233	11600	4	mg/Kg	*	1335	75 - 125
Antimony	1.2	U	58.3	18.6	F	mg/Kg	*	31	75 - 125
Arsenic	9.1		233	190		mg/Kg	*	78	75 - 125
Barium	95		233	276		mg/Kg	*	78	75 - 125
Beryllium	0.59	U	5.83	5.11		mg/Kg	*	78	75 - 125
Cadmium	0.44		5.83	5.04		mg/Kg	*	79	75 - 125
Calcium	1800		5830	6380		mg/Kg	*	78	75 - 125

TestAmerica Canton

QC Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 240-27379-25 MSD

Matrix: Solid

Analysis Batch: 95922

Client Sample ID: ELSS-12.03

Prep Type: Total/NA

Prep Batch: 95626

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Chromium	15		23.3	35.5		mg/Kg	*	88	75 - 125	1	20	
Cobalt	9.6		58.3	62.6		mg/Kg	*	91	75 - 125	1	20	
Copper	16		29.2	39.0		mg/Kg	*	77	75 - 125	1	20	
Iron	23000		117	23200	4	mg/Kg	*	425	75 - 125	5	20	
Lead	25		58.3	66.1	F	mg/Kg	*	71	75 - 125	1	20	
Magnesium	1700		5830	6670		mg/Kg	*	85	75 - 125	0	20	
Manganese	740		58.3	786	4	mg/Kg	*	81	75 - 125	3	20	
Nickel	19		58.3	73.7		mg/Kg	*	94	75 - 125	1	20	
Potassium	590	U	5830	5360		mg/Kg	*	82	75 - 125	1	20	
Selenium	0.59		233	176		mg/Kg	*	75	75 - 125	3	20	
Silver	0.59	U	5.83	4.57		mg/Kg	*	78	75 - 125	3	20	
Sodium	590	U	5830	4840		mg/Kg	*	80	75 - 125	1	20	
Thallium	1.2	U	233	196		mg/Kg	*	84	75 - 125	2	20	
Tin	12	U	233	201		mg/Kg	*	85	75 - 125	2	20	
Titanium	66		117	163		mg/Kg	*	83	75 - 125	1	20	
Vanadium	16		58.3	66.0		mg/Kg	*	85	75 - 125	0	20	
Zinc	99		58.3	164		mg/Kg	*	111	75 - 125	1	20	

Lab Sample ID: MB 240-95654/1-A

Matrix: Solid

Analysis Batch: 95922

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95654

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dif Fac
	Result	Qualifier						
Aluminum	20	U	20	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Antimony	1.0	U	1.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Arsenic	1.0	U	1.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Barium	20	U	20	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Beryllium	0.50	U	0.50	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Cadmium	0.20	U	0.20	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Calcium	500	U	500	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Chromium	0.50	U	0.50	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Cobalt	5.0	U	5.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Copper	2.5	U	2.5	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Iron	10	U	10	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Lead	0.30	U	0.30	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Magnesium	500	U	500	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Manganese	1.5	U	1.5	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Nickel	4.0	U	4.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Potassium	500	U	500	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Selenium	0.50	U	0.50	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Silver	0.50	U	0.50	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Sodium	500	U	500	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Thallium	1.0	U	1.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Tin	10	U	10	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Titanium	5.0	U	5.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Vanadium	5.0	U	5.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1
Zinc	2.0	U	2.0	mg/Kg	07/31/13 11:33	08/01/13 18:09		1

TestAmerica Canton

QC Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1



Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-95654/2-A

Matrix: Solid

Analysis Batch: 95922

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95654

Analyte	Spike Added	LCS			Unit	D	%Rec	%Rec.
		Result	Qualifier	LCS				
Aluminum	200	198		mg/Kg		99	80 - 120	
Antimony	50.0	49.1		mg/Kg		98	80 - 120	
Arsenic	200	198		mg/Kg		99	80 - 120	
Barium	200	192		mg/Kg		96	80 - 120	
Beryllium	5.00	4.80		mg/Kg		96	80 - 120	
Cadmium	5.00	4.95		mg/Kg		99	80 - 120	
Calcium	5000	5000		mg/Kg		100	80 - 120	
Chromium	20.0	20.0		mg/Kg		100	80 - 120	
Cobalt	50.0	49.1		mg/Kg		98	80 - 120	
Copper	25.0	24.6		mg/Kg		98	80 - 120	
Iron	100	103		mg/Kg		103	80 - 120	
Lead	50.0	47.8		mg/Kg		96	80 - 120	
Magnesium	5000	5040		mg/Kg		101	80 - 120	
Manganese	50.0	49.7		mg/Kg		99	80 - 120	
Nickel	50.0	49.8		mg/Kg		100	80 - 120	
Potassium	5000	4900		mg/Kg		98	80 - 120	
Selenium	200	193		mg/Kg		97	80 - 120	
Silver	5.00	4.89		mg/Kg		98	80 - 120	
Sodium	5000	4800		mg/Kg		96	80 - 120	
Thallium	200	188		mg/Kg		94	80 - 120	
Tin	200	200		mg/Kg		100	80 - 120	
Titanium	100	99.9		mg/Kg		100	80 - 120	
Vanadium	50.0	49.7		mg/Kg		99	80 - 120	
Zinc	50.0	51.4		mg/Kg		103	80 - 120	

Lab Sample ID: 240-27379-29 MS

Matrix: Solid

Analysis Batch: 95922

Client Sample ID: ELSS-14.03

Prep Type: Total/NA

Prep Batch: 95654

Analyte	Sample Result	Sample Qualifier	Spike Added	MS			Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier	MS				
Aluminum	11000		219	11800	4	4	mg/Kg	♂	578	75 - 125
Antimony	1.1	U	54.7	19.2	F	1	mg/Kg	♂	34	75 - 125
Arsenic	9.9		219	192		1	mg/Kg	♂	83	75 - 125
Barium	100		219	291		1	mg/Kg	♂	87	75 - 125
Beryllium	0.70		5.47	5.27		1	mg/Kg	♂	83	75 - 125
Cadmium	0.36		5.47	5.00		1	mg/Kg	♂	85	75 - 125
Calcium	2700		5470	6650	F	1	mg/Kg	♂	72	75 - 125
Chromium	27		21.9	44.7		1	mg/Kg	♂	80	75 - 125
Cobalt	15		54.7	71.1		1	mg/Kg	♂	102	75 - 125
Copper	21		27.4	45.8		1	mg/Kg	♂	90	75 - 125
Iron	30000		109	31300	4	4	mg/Kg	♂	1331	75 - 125
Lead	16		54.7	59.1		1	mg/Kg	♂	78	75 - 125
Magnesium	3600		5470	8000		1	mg/Kg	♂	80	75 - 125
Manganese	720		54.7	1050	4	1	mg/Kg	♂	604	75 - 125
Nickel	31		54.7	84.7		1	mg/Kg	♂	97	75 - 125
Potassium	1300		5470	5700		1	mg/Kg	♂	80	75 - 125
Selenium	0.53	U	219	177		1	mg/Kg	♂	81	75 - 125
Silver	0.53	U	5.47	4.59		1	mg/Kg	♂	84	75 - 125



QC Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 240-27379-29 MS

Client Sample ID: ELSS-14.03

Matrix: Solid

Analysis Batch: 95922

Prep Type: Total/NA

Prep Batch: 95654

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sodium	530	U	5470	4550		mg/Kg	*	81	75 - 125
Thallium	1.1	U	219	194		mg/Kg	*	88	75 - 125
Tin	11	U	219	200		mg/Kg	*	90	75 - 125
Titanium	65		109	146	F	mg/Kg	*	74	75 - 125
Vanadium	20		54.7	68.9		mg/Kg	*	89	75 - 125
Zinc	100		54.7	161		mg/Kg	*	104	75 - 125

Lab Sample ID: 240-27379-29 MSD

Client Sample ID: ELSS-14.03

Matrix: Solid

Analysis Batch: 95922

Prep Type: Total/NA

Prep Batch: 95654

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Aluminum	11000		219	11000	4	mg/Kg	*	228	75 - 125	7	20
Antimony	1.1	U	54.7	15.8	F	mg/Kg	*	28	75 - 125	19	20
Arsenic	9.9		219	181		mg/Kg	*	78	75 - 125	6	20
Barium	100		219	261	F	mg/Kg	*	74	75 - 125	11	20
Beryllium	0.70		5.47	4.92		mg/Kg	*	77	75 - 125	7	20
Cadmium	0.36		5.47	4.66		mg/Kg	*	79	75 - 125	7	20
Calcium	2700		5470	6280	F	mg/Kg	*	65	75 - 125	6	20
Chromium	27		21.9	41.1	F	mg/Kg	*	64	75 - 125	8	20
Cobalt	15		54.7	63.7		mg/Kg	*	89	75 - 125	11	20
Copper	21		27.4	41.5	F	mg/Kg	*	74	75 - 125	10	20
Iron	30000		109	29000	4	mg/Kg	*	-770	75 - 125	8	20
Lead	16		54.7	55.7	F	mg/Kg	*	72	75 - 125	6	20
Magnesium	3600		5470	7500	F	mg/Kg	*	71	75 - 125	6	20
Manganese	720		54.7	803	4 F	mg/Kg	*	154	75 - 125	27	20
Nickel	31		54.7	76.6		mg/Kg	*	83	75 - 125	10	20
Potassium	1300		5470	5240	F	mg/Kg	*	72	75 - 125	8	20
Selenium	0.53	U	219	166		mg/Kg	*	76	75 - 125	7	20
Silver	0.53	U	5.47	4.35		mg/Kg	*	79	75 - 125	5	20
Sodium	530	U	5470	4250		mg/Kg	*	76	75 - 125	7	20
Thallium	1.1	U	219	182		mg/Kg	*	83	75 - 125	6	20
Tin	11	U	219	184		mg/Kg	*	83	75 - 125	8	20
Titanium	65		109	130	F	mg/Kg	*	59	75 - 125	12	20
Vanadium	20		54.7	63.2		mg/Kg	*	78	75 - 125	9	20
Zinc	100		54.7	142	F	mg/Kg	*	71	75 - 125	12	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 240-95636/1-A

Client Sample ID: Method Blank

Matrix: Solid

Analysis Batch: 95953

Prep Type: Total/NA

Prep Batch: 95636

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	0.10	U	0.10	mg/Kg		07/31/13 14:25	08/01/13 14:40	1

TestAmerica Canton

QC Sample Results

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-95636/2-A

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95636

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Mercury	0.833	0.877		mg/Kg		105	73 - 121

Lab Sample ID: 240-27379-25 MS

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: ELSS-12.03

Prep Type: Total/NA

Prep Batch: 95636

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
Mercury	0.13	U	0.240	0.270		mg/Kg		89	11 - 192

Lab Sample ID: 240-27379-25 MSD

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: ELSS-12.03

Prep Type: Total/NA

Prep Batch: 95636

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.	RPD	
Mercury	0.13	U	0.240	0.242		mg/Kg		78	11 - 192	11	20

Lab Sample ID: MB 240-95664/1-A

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95664

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.10	mg/Kg		07/31/13 14:25	08/01/13 13:10	1

Lab Sample ID: LCS 240-95664/2-A

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Mercury	0.833	0.818		mg/Kg		98	73 - 121

Lab Sample ID: 240-27379-29 MS

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: ELSS-14.03

Prep Type: Total/NA

Prep Batch: 95664

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
Mercury	0.12	U	0.207	0.226		mg/Kg		86	11 - 192

Lab Sample ID: 240-27379-29 MSD

Matrix: Solid

Analysis Batch: 95953

Client Sample ID: ELSS-14.03

Prep Type: Total/NA

Prep Batch: 95664

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.	RPD	
Mercury	0.12	U	0.207	0.226		mg/Kg		86	11 - 192	0	20

TestAmerica Canton

QC Association Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Metals

Prep Batch: 95626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-1	ELASH-01	Total/NA	Solid	3050B	
240-27379-2	ELSS-01.01	Total/NA	Solid	3050B	
240-27379-3	ELSS-01.03	Total/NA	Solid	3050B	
240-27379-4	ELSS-02.01	Total/NA	Solid	3050B	
240-27379-5	ELSS-02.03	Total/NA	Solid	3050B	
240-27379-6	ELSS-03.01	Total/NA	Solid	3050B	
240-27379-7	ELSS-03.03	Total/NA	Solid	3050B	
240-27379-8	ELSS-04.01	Total/NA	Solid	3050B	
240-27379-9	ELSS-04.03	Total/NA	Solid	3050B	
240-27379-10	ELSS-05.01	Total/NA	Solid	3050B	
240-27379-11	ELSS-05.03	Total/NA	Solid	3050B	
240-27379-12	ELSS-06.01	Total/NA	Solid	3050B	
240-27379-13	ELSS-06.03	Total/NA	Solid	3050B	
240-27379-14	ELSS-07.01	Total/NA	Solid	3050B	
240-27379-15	ELSS-07.03	Total/NA	Solid	3050B	
240-27379-16	ELSS-08.01	Total/NA	Solid	3050B	
240-27379-17	ELSS-08.03	Total/NA	Solid	3050B	
240-27379-18	ELSS-09.01	Total/NA	Solid	3050B	
240-27379-19	ELSS-09.03	Total/NA	Solid	3050B	
240-27379-25	ELSS-12.03	Total/NA	Solid	3050B	
240-27379-25 MS	ELSS-12.03	Total/NA	Solid	3050B	
240-27379-25 MSD	ELSS-12.03	Total/NA	Solid	3050B	
LCS 240-95626/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 240-95626/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 95636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-1	ELASH-01	Total/NA	Solid	7471A	
240-27379-2	ELSS-01.01	Total/NA	Solid	7471A	
240-27379-3	ELSS-01.03	Total/NA	Solid	7471A	
240-27379-4	ELSS-02.01	Total/NA	Solid	7471A	
240-27379-5	ELSS-02.03	Total/NA	Solid	7471A	
240-27379-6	ELSS-03.01	Total/NA	Solid	7471A	
240-27379-7	ELSS-03.03	Total/NA	Solid	7471A	
240-27379-8	ELSS-04.01	Total/NA	Solid	7471A	
240-27379-9	ELSS-04.03	Total/NA	Solid	7471A	
240-27379-10	ELSS-05.01	Total/NA	Solid	7471A	
240-27379-11	ELSS-05.03	Total/NA	Solid	7471A	
240-27379-12	ELSS-06.01	Total/NA	Solid	7471A	
240-27379-13	ELSS-06.03	Total/NA	Solid	7471A	
240-27379-14	ELSS-07.01	Total/NA	Solid	7471A	
240-27379-15	ELSS-07.03	Total/NA	Solid	7471A	
240-27379-16	ELSS-08.01	Total/NA	Solid	7471A	
240-27379-17	ELSS-08.03	Total/NA	Solid	7471A	
240-27379-18	ELSS-09.01	Total/NA	Solid	7471A	
240-27379-19	ELSS-09.03	Total/NA	Solid	7471A	
240-27379-25	ELSS-12.03	Total/NA	Solid	7471A	
240-27379-25 MS	ELSS-12.03	Total/NA	Solid	7471A	
240-27379-25 MSD	ELSS-12.03	Total/NA	Solid	7471A	
LCS 240-95636/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 240-95636/1-A	Method Blank	Total/NA	Solid	7471A	

1

2

3

10

4

5

6

7

8

9

TestAmerica Canton

QC Association Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1



Metals (Continued)

Prep Batch: 95654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-20	ELSS-10.01	Total/NA	Solid	3050B	
240-27379-21	ELSS-10.03	Total/NA	Solid	3050B	
240-27379-22	ELSS-11.01	Total/NA	Solid	3050B	
240-27379-23	ELSS-11.03	Total/NA	Solid	3050B	
240-27379-24	ELSS-12.01	Total/NA	Solid	3050B	
240-27379-26	ELSS-13.01	Total/NA	Solid	3050B	
240-27379-27	ELSS-13.03	Total/NA	Solid	3050B	
240-27379-28	ELSS-14.01	Total/NA	Solid	3050B	
240-27379-29	ELSS-14.03	Total/NA	Solid	3050B	
240-27379-29 MS	ELSS-14.03	Total/NA	Solid	3050B	
240-27379-29 MSD	ELSS-14.03	Total/NA	Solid	3050B	
240-27379-30	ELSS-15.01	Total/NA	Solid	3050B	
240-27379-31	ELSS-15.03	Total/NA	Solid	3050B	
LCS 240-95654/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 240-95654/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 95664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-20	ELSS-10.01	Total/NA	Solid	7471A	
240-27379-21	ELSS-10.03	Total/NA	Solid	7471A	
240-27379-22	ELSS-11.01	Total/NA	Solid	7471A	
240-27379-23	ELSS-11.03	Total/NA	Solid	7471A	
240-27379-24	ELSS-12.01	Total/NA	Solid	7471A	
240-27379-26	ELSS-13.01	Total/NA	Solid	7471A	
240-27379-27	ELSS-13.03	Total/NA	Solid	7471A	
240-27379-28	ELSS-14.01	Total/NA	Solid	7471A	
240-27379-29	ELSS-14.03	Total/NA	Solid	7471A	
240-27379-29 MS	ELSS-14.03	Total/NA	Solid	7471A	
240-27379-29 MSD	ELSS-14.03	Total/NA	Solid	7471A	
240-27379-30	ELSS-15.01	Total/NA	Solid	7471A	
240-27379-31	ELSS-15.03	Total/NA	Solid	7471A	
LCS 240-95664/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 240-95664/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 95922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-1	ELASH-01	Total/NA	Solid	6010B	95626
240-27379-20	ELSS-10.01	Total/NA	Solid	6010B	95654
240-27379-21	ELSS-10.03	Total/NA	Solid	6010B	95654
240-27379-22	ELSS-11.01	Total/NA	Solid	6010B	95654
240-27379-23	ELSS-11.03	Total/NA	Solid	6010B	95654
240-27379-24	ELSS-12.01	Total/NA	Solid	6010B	95654
240-27379-25	ELSS-12.03	Total/NA	Solid	6010B	95626
240-27379-25 MS	ELSS-12.03	Total/NA	Solid	6010B	95626
240-27379-26 MSD	ELSS-12.03	Total/NA	Solid	6010B	95626
240-27379-26	ELSS-13.01	Total/NA	Solid	6010B	95654
240-27379-27	ELSS-13.03	Total/NA	Solid	6010B	95654
240-27379-28	ELSS-14.01	Total/NA	Solid	6010B	95654
240-27379-29	ELSS-14.03	Total/NA	Solid	6010B	95654
240-27379-29 MS	ELSS-14.03	Total/NA	Solid	6010B	95654
240-27379-29 MSD	ELSS-14.03	Total/NA	Solid	6010B	95654

TestAmerica Canton

QC Association Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1



Metals (Continued)

Analysis Batch: 95922 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-30	ELSS-15.01	Total/NA	Solid	6010B	95654
240-27379-31	ELSS-15.03	Total/NA	Solid	6010B	95654
LCS 240-95626/2-A	Lab Control Sample	Total/NA	Solid	6010B	95626
LCS 240-95654/2-A	Lab Control Sample	Total/NA	Solid	6010B	95654
MB 240-95626/1-A	Method Blank	Total/NA	Solid	6010B	95626
MB 240-95654/1-A	Method Blank	Total/NA	Solid	6010B	95654

Analysis Batch: 95953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-1	ELASH-01	Total/NA	Solid	7471A	95636
240-27379-2	ELSS-01.01	Total/NA	Solid	7471A	95636
240-27379-3	ELSS-01.03	Total/NA	Solid	7471A	95636
240-27379-4	ELSS-02.01	Total/NA	Solid	7471A	95636
240-27379-5	ELSS-02.03	Total/NA	Solid	7471A	95636
240-27379-6	ELSS-03.01	Total/NA	Solid	7471A	95636
240-27379-7	ELSS-03.03	Total/NA	Solid	7471A	95636
240-27379-8	ELSS-04.01	Total/NA	Solid	7471A	95636
240-27379-9	ELSS-04.03	Total/NA	Solid	7471A	95636
240-27379-10	ELSS-05.01	Total/NA	Solid	7471A	95636
240-27379-11	ELSS-05.03	Total/NA	Solid	7471A	95636
240-27379-12	ELSS-06.01	Total/NA	Solid	7471A	95636
240-27379-13	ELSS-06.03	Total/NA	Solid	7471A	95636
240-27379-14	ELSS-07.01	Total/NA	Solid	7471A	95636
240-27379-15	ELSS-07.03	Total/NA	Solid	7471A	95636
240-27379-16	ELSS-08.01	Total/NA	Solid	7471A	95636
240-27379-17	ELSS-08.03	Total/NA	Solid	7471A	95636
240-27379-18	ELSS-09.01	Total/NA	Solid	7471A	95636
240-27379-19	ELSS-09.03	Total/NA	Solid	7471A	95636
240-27379-20	ELSS-10.01	Total/NA	Solid	7471A	95664
240-27379-21	ELSS-10.03	Total/NA	Solid	7471A	95664
240-27379-22	ELSS-11.01	Total/NA	Solid	7471A	95664
240-27379-23	ELSS-11.03	Total/NA	Solid	7471A	95664
240-27379-24	ELSS-12.01	Total/NA	Solid	7471A	95664
240-27379-25	ELSS-12.03	Total/NA	Solid	7471A	95636
240-27379-25 MS	ELSS-12.03	Total/NA	Solid	7471A	95636
240-27379-25 MSD	ELSS-12.03	Total/NA	Solid	7471A	95636
240-27379-26	ELSS-13.01	Total/NA	Solid	7471A	95664
240-27379-27	ELSS-13.03	Total/NA	Solid	7471A	95664
240-27379-28	ELSS-14.01	Total/NA	Solid	7471A	95664
240-27379-29	ELSS-14.03	Total/NA	Solid	7471A	95664
240-27379-29 MS	ELSS-14.03	Total/NA	Solid	7471A	95664
240-27379-29 MSD	ELSS-14.03	Total/NA	Solid	7471A	95664
240-27379-30	ELSS-15.01	Total/NA	Solid	7471A	95664
240-27379-31	ELSS-15.03	Total/NA	Solid	7471A	95664
LCS 240-95636/2-A	Lab Control Sample	Total/NA	Solid	7471A	95636
LCS 240-95664/2-A	Lab Control Sample	Total/NA	Solid	7471A	95664
MB 240-95636/1-A	Method Blank	Total/NA	Solid	7471A	95636
MB 240-95664/1-A	Method Blank	Total/NA	Solid	7471A	95664

TestAmerica Canton

QC Association Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Metals (Continued)

Analysis Batch: 96131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-1	ELASH-01	Total/NA	Solid	6010B	95626
240-27379-2	ELSS-01.01	Total/NA	Solid	6010B	95626
240-27379-3	ELSS-01.03	Total/NA	Solid	6010B	95626
240-27379-4	ELSS-02.01	Total/NA	Solid	6010B	95626
240-27379-5	ELSS-02.03	Total/NA	Solid	6010B	95626
240-27379-6	ELSS-03.01	Total/NA	Solid	6010B	95626
240-27379-7	ELSS-03.03	Total/NA	Solid	6010B	95626
240-27379-8	ELSS-04.01	Total/NA	Solid	6010B	95626
240-27379-9	ELSS-04.03	Total/NA	Solid	6010B	95626
240-27379-10	ELSS-05.01	Total/NA	Solid	6010B	95626
240-27379-11	ELSS-05.03	Total/NA	Solid	6010B	95626
240-27379-12	ELSS-06.01	Total/NA	Solid	6010B	95626
240-27379-13	ELSS-06.03	Total/NA	Solid	6010B	95626
240-27379-14	ELSS-07.01	Total/NA	Solid	6010B	95626
240-27379-15	ELSS-07.03	Total/NA	Solid	6010B	95626
240-27379-16	ELSS-08.01	Total/NA	Solid	6010B	95626
240-27379-17	ELSS-08.03	Total/NA	Solid	6010B	95626
240-27379-18	ELSS-09.01	Total/NA	Solid	6010B	95626
240-27379-19	ELSS-09.03	Total/NA	Solid	6010B	95626
240-27379-26	ELSS-13.01	Total/NA	Solid	6010B	95654
240-27379-28	ELSS-14.01	Total/NA	Solid	6010B	95654

General Chemistry

Analysis Batch: 95653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-1	ELASH-01	Total/NA	Solid	Moisture	
240-27379-2	ELSS-01.01	Total/NA	Solid	Moisture	
240-27379-3	ELSS-01.03	Total/NA	Solid	Moisture	
240-27379-4	ELSS-02.01	Total/NA	Solid	Moisture	
240-27379-5	ELSS-02.03	Total/NA	Solid	Moisture	
240-27379-6	ELSS-03.01	Total/NA	Solid	Moisture	
240-27379-7	ELSS-03.03	Total/NA	Solid	Moisture	
240-27379-8	ELSS-04.01	Total/NA	Solid	Moisture	
240-27379-9	ELSS-04.03	Total/NA	Solid	Moisture	
240-27379-10	ELSS-05.01	Total/NA	Solid	Moisture	
240-27379-11	ELSS-05.03	Total/NA	Solid	Moisture	
240-27379-12	ELSS-06.01	Total/NA	Solid	Moisture	
240-27379-13	ELSS-06.03	Total/NA	Solid	Moisture	
240-27379-14	ELSS-07.01	Total/NA	Solid	Moisture	
240-27379-15	ELSS-07.03	Total/NA	Solid	Moisture	
240-27379-16	ELSS-08.01	Total/NA	Solid	Moisture	
240-27379-17	ELSS-08.03	Total/NA	Solid	Moisture	
240-27379-18	ELSS-09.01	Total/NA	Solid	Moisture	
240-27379-19	ELSS-09.03	Total/NA	Solid	Moisture	
240-27379-20	ELSS-10.01	Total/NA	Solid	Moisture	
240-27379-21	ELSS-10.03	Total/NA	Solid	Moisture	
240-27379-22	ELSS-11.01	Total/NA	Solid	Moisture	
240-27379-23	ELSS-11.03	Total/NA	Solid	Moisture	
240-27379-24	ELSS-12.01	Total/NA	Solid	Moisture	

TestAmerica Canton

QC Association Summary

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1



General Chemistry (Continued)

Analysis Batch: 95653 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27379-24 DU	ELSS-12.01	Total/NA	Solid	Moisture	
240-27379-25	ELSS-12.03	Total/NA	Solid	Moisture	
240-27379-25 DU	ELSS-12.03	Total/NA	Solid	Moisture	
240-27379-26	ELSS-13.01	Total/NA	Solid	Moisture	
240-27379-27	ELSS-13.03	Total/NA	Solid	Moisture	
240-27379-28	ELSS-14.01	Total/NA	Solid	Moisture	
240-27379-29	ELSS-14.03	Total/NA	Solid	Moisture	
240-27379-29 DU	ELSS-14.03	Total/NA	Solid	Moisture	
240-27379-30	ELSS-15.01	Total/NA	Solid	Moisture	
240-27379-31	ELSS-15.03	Total/NA	Solid	Moisture	

10



TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1


Client Sample ID: ELASH-01
Lab Sample ID: 240-27379-1

Date Collected: 07/29/13 11:25

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 97.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		1	95922	08/01/13 20:18	KLC	TAL CAN
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:51	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		10	96131	08/02/13 13:38	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:40	NJE	TAL CAN

Client Sample ID: ELSS-01.01
Lab Sample ID: 240-27379-2

Date Collected: 07/30/13 09:25

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 75.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:53	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 13:42	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:40	NJE	TAL CAN

Client Sample ID: ELSS-01.03
Lab Sample ID: 240-27379-3

Date Collected: 07/30/13 09:30

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 77.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:55	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 13:54	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:40	NJE	TAL CAN

Client Sample ID: ELSS-02.01
Lab Sample ID: 240-27379-4

Date Collected: 07/30/13 09:05

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 72.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:57	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 13:58	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:40	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-02.03

Date Collected: 07/30/13 09:10

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-5

Matrix: Solid

Percent Solids: 74.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:59	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:02	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:40	NJE	TAL CAN

Client Sample ID: ELSS-03.01

Date Collected: 07/30/13 08:35

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-6

Matrix: Solid

Percent Solids: 76.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:05	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:07	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-03.03

Date Collected: 07/30/13 08:40

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-7

Matrix: Solid

Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:08	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:11	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-04.01

Date Collected: 07/30/13 08:10

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-8

Matrix: Solid

Percent Solids: 71.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:10	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:15	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-04.03

Lab Sample ID: 240-27379-9

Date Collected: 07/30/13 08:20

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 73.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:12	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:19	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-05.01

Lab Sample ID: 240-27379-10

Date Collected: 07/29/13 15:55

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:14	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:23	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-05.03

Lab Sample ID: 240-27379-11

Date Collected: 07/29/13 16:00

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:17	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:27	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-06.01

Lab Sample ID: 240-27379-12

Date Collected: 07/30/13 07:45

Matrix: Solid

Date Received: 07/30/13 13:00

Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:19	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:31	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-06.03					Lab Sample ID: 240-27379-13			
					Matrix: Solid Percent Solids: 83.8			
Date Collected: 07/30/13 07:50								
Date Received: 07/30/13 13:00								

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:21	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:44	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-07.01					Lab Sample ID: 240-27379-14			
					Matrix: Solid Percent Solids: 75.0			
Date Collected: 07/29/13 15:30								
Date Received: 07/30/13 13:00								

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:23	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:48	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-07.03					Lab Sample ID: 240-27379-15			
					Matrix: Solid Percent Solids: 79.9			
Date Collected: 07/29/13 15:35								
Date Received: 07/30/13 13:00								

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:25	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:52	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-08.01					Lab Sample ID: 240-27379-16			
					Matrix: Solid Percent Solids: 75.2			
Date Collected: 07/29/13 14:20								
Date Received: 07/30/13 13:00								

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:31	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 14:56	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-08.03

Date Collected: 07/29/13 14:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-17

Matrix: Solid

Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:33	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 15:00	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-09.01

Date Collected: 07/29/13 15:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-18

Matrix: Solid

Percent Solids: 75.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:35	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 15:04	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-09.03

Date Collected: 07/29/13 15:05

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-19

Matrix: Solid

Percent Solids: 74.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 15:37	ADS	TAL CAN
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 15:08	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-10.01

Date Collected: 07/29/13 13:50

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-20

Matrix: Solid

Percent Solids: 74.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 18:33	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 13:20	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-10.03

Date Collected: 07/29/13 14:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-21

Matrix: Solid

Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 18:38	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 13:23	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-11.01

Date Collected: 07/30/13 10:25

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-22

Matrix: Solid

Percent Solids: 75.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 18:50	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:05	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-11.03

Date Collected: 07/30/13 10:30

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-23

Matrix: Solid

Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 18:55	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:07	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-12.01

Date Collected: 07/30/13 09:55

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-24

Matrix: Solid

Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 18:59	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:09	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:54	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-12.03

Date Collected: 07/30/13 10:00

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-25

Matrix: Solid

Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95626	07/31/13 10:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 20:02	KLC	TAL CAN
Total/NA	Prep	7471A			95636	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:45	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:50	NJE	TAL CAN

Client Sample ID: ELSS-13.01

Date Collected: 07/29/13 12:05

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-26

Matrix: Solid

Percent Solids: 66.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 19:03	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:12	ADS	TAL CAN
Total/NA	Analysis	6010B		2	96131	08/02/13 13:22	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:54	NJE	TAL CAN

Client Sample ID: ELSS-13.03

Date Collected: 07/29/13 12:15

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-27

Matrix: Solid

Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 19:07	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:14	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:54	NJE	TAL CAN

Client Sample ID: ELSS-14.01

Date Collected: 07/29/13 11:30

Date Received: 07/30/13 13:00

Lab Sample ID: 240-27379-28

Matrix: Solid

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		1	95922	08/01/13 19:12	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:16	ADS	TAL CAN
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	96131	08/02/13 13:26	KLC	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:54	NJE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Cox-Colvin & Associates, Inc.
Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Client Sample ID: ELSS-14.03 **Lab Sample ID: 240-27379-29**
Matrix: Solid
Percent Solids: 87.8
Date Collected: 07/29/13 11:35
Date Received: 07/30/13 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 18:17	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 13:15	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:52	NJE	TAL CAN

Client Sample ID: ELSS-15.01 **Lab Sample ID: 240-27379-30**
Matrix: Solid
Percent Solids: 78.2
Date Collected: 07/29/13 10:50
Date Received: 07/30/13 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 19:16	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:18	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:54	NJE	TAL CAN

Client Sample ID: ELSS-15.03 **Lab Sample ID: 240-27379-31**
Matrix: Solid
Percent Solids: 80.2
Date Collected: 07/29/13 11:05
Date Received: 07/30/13 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			95654	07/31/13 11:33	DEE	TAL CAN
Total/NA	Analysis	6010B		1	95922	08/01/13 19:20	KLC	TAL CAN
Total/NA	Prep	7471A			95664	07/31/13 14:25	DEE	TAL CAN
Total/NA	Analysis	7471A		1	95953	08/01/13 14:20	ADS	TAL CAN
Total/NA	Analysis	Moisture		1	95653	07/31/13 11:54	NJE	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TestAmerica Canton

Certification Summary

Client: Cox-Colvin & Associates, Inc.

Project/Site: HTS East Liverpool

TestAmerica Job ID: 240-27379-1

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200004	07-31-13 *
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-14
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-14
New Jersey	NELAP	2	OH001	06-30-14
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13
Texas	NELAP	6		08-31-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
Wisconsin	State Program	5	999518190	08-31-13

* Expired certification is currently pending renewal and is considered valid.

Cox-Colvin & Associates, Inc.
 7750 Corporate Blvd
 Plain City, Ohio 43064
 Phone (614) 526-2040
 Fax (614) 526-2041



240-22379 Chain of Custody

Chain-of-Custody Record

Analytical Laboratory: Test America N. Canton

Page 1 of 2

Project: Ash Release - East Liverpool, OH
 Project Number: HTS

Sampler(s): ZC, CP

Sample ID	Date	Time	Media	Container Type and #	Preserv.	Requested Analysis	Cooler ID
- ELASH-01	7/29/13	11:25	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-01_01	7/30/13	09:25	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-01_03	7/30/13	09:30	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-02_01	7/30/13	09:05	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-02_03	7/30/13	09:10	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-03_01	7/30/13	08:35	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-03_03	7/30/13	08:40	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-04_01	7/30/13	08:10	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-04_03	7/30/13	08:20	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-05_01	7/29/13	15:55	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-05_03	7/29/13	16:00	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-06_01	7/30/13	07:45	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-06_03	7/30/13	07:50	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-07_01	7/29/13	16:30	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-07_03	7/29/13	15:35	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-08_01	7/29/13	14:20	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-08_03	7/29/13	14:25	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-09_01	7/29/13	15:00	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-09_03	7/29/13	15:00	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-10_01	7/29/13	13:50	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-10_03	7/29/13	14:00	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	
- ELSS-11_01	7/30/13	10:25	Soil	1 x 4oz Glass Jar	Ice	TAL Metals Plus Tin and Titanium	

Cox-Colvin & Associates, Inc.
 7750 Corporate Blvd
 Plain City, Ohio 43064
 Phone (614) 526-2040
 Fax (614) 526-2041

Chain-of-Custody Record

Analytical Laboratory: Test America N. Canton
 Fax (614) 526-2041

Page 2 of 2

Project: Ash Release - East Liverpool, OH
 Project Number: HTS

Sampler(s): ZC, CP

Sample ID	Date	Time	Media	Container Type and #	Preserv.	Requested Analysis	Cooler ID
• ELSS-11.03	7/30/13	16:30	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-12.01	7/30/13	09:55	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-12.02	7/30/13	10:00	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-13.01	7/29/13	12:05	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-13.02	7/29/13	12:15	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-14.01	7/29/13	11:30	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-14.02	7/29/13	11:35	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-15.01	7/29/13	10:50	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	
• ELSS-15.02	7/29/13	11:05	Soil	1x4oz Glass Jar	1 ice	TAL Metals Plus Tin and Titanium	

ELSS-14.03 for MSL/MSD
 ELSS-12.03 for MSL/MSD

Total number of containers = 31

Relinquished By: <i>Craig Cox</i>	Date: 7/30/13	Time: 13:00	Received By: <i>Jenell VD</i>	Date: 7/30/13	Time: 13:00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Comments:					

Delivery/Bus: Data Package: Standard	Turnaround Time:	Disk Deliverables? Yes	Number of Copies: 1
Send Data to: Craig Cox	Shipping Info: Carrier: Drop off at lab	Waybill: 24010756	Custody Seal: <i>ice</i>

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 27379

Client	<u>Cox-Comin</u>	Site Name		Cooler unpacked by:	<u>Tenell</u>
Cooler Received on	<u>7-30-13</u>	Opened on	<u>7-30-13</u>		
FedEx: 1 st Grd Exp	UPS FAS	Stetson	Client Drop Off	TestAmerica Courier	Other
TestAmerica Cooler #		Foam Box	Client Cooler	Box	Other
Packing material used:	Bubble Wrap	Foam	Plastic Bag	None	Other
COOLANT:	Wet Ice	Blue Ice	Dry Ice	Water	None

1. Cooler temperature upon receipt

- IR GUN# A (CF -1 °C) Observed Cooler Temp. -1 °C Corrected Cooler Temp. -1 °C
 IR GUN# 4 (CF 0 °C) Observed Cooler Temp. 0 °C Corrected Cooler Temp. 0 °C See Multiple
 Cooler Form
 IR GUN# 5 (CF +1 °C) Observed Cooler Temp. 1 °C Corrected Cooler Temp. 2.2 °C
 IR GUN# 8 (CF -0 °C) Observed Cooler Temp. 0 °C Corrected Cooler Temp. 0 °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No NA
 -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were custody seals on the bottle(s)? Yes No NA
 3. Shippers' packing slip attached to the cooler(s)? Yes No NA
 4. Did custody papers accompany the sample(s)? Yes No NA
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No NA
 6. Did all bottles arrive in good condition (Unbroken)? Yes No NA
 7. Could all bottle labels be reconciled with the COC? Yes No NA
 8. Were correct bottle(s) used for the test(s) indicated? Yes No NA
 9. Sufficient quantity received to perform indicated analyses? Yes No NA
 10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC376062
 11. Were VOAs on the COC? Yes No NA
 12. Were air bubbles >6 mm in any VOA vials? Yes No NA
 13. Was a trip blank present in the cooler(s)? Yes No NA

Contacted PM: _____ Date: _____ by: _____ via Verbal Voice Mail Other: _____
 Concerning: _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: Tenell

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

Cox-Colvin & Associates, Inc.

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

REVIEW OF ANALYTICAL DATA PACKAGE

The TestAmerica Laboratories data package has been reviewed and the quality assurance and performance data summarized. The data review included:

No. of Samples	31	Sampling Date(s)	29-30JUL13
Matrix	Solid	Shipping Date	30JUL13 (HAND DELIVERED)
Lab Quote	24010756	Date logged in by Lab	30JUL13

Sample Nos: ELASH-01, ELSS-01.01, ELSS-01.03, ELSS-02.01, ELSS-02.03, ELSS-03.01, ELSS-03.03, ELSS-04.01, ELSS-04.03, ELSS-05.01, ELSS-05.03, ELSS-06.01, ELSS-06.03, ELSS-07.01, ELSS-07.03, ELSS-08.01, ELSS-08.03, ELSS-09.01, ELSS-09.03, ELSS-10.01, ELSS-10.03, ELSS-11.01, ELSS-11.03, ELSS-12.01, ELSS-12.03, ELSS-13.01, ELSS-13.03, ELSS-14.01, ELSS-14.03, ELSS-15.01, ELSS-15.03

Trip Blank: None collected

Equipment Rinsate Blank: None collected

Field Duplicate: None collected

Validation Summary

Cox-Colvin & Associates, Inc. (Cox-Colvin) collected 30 soil samples and one ash sample on July 29 - 30, 2013 in East Liverpool, Ohio from the neighborhoods surrounding the Heritage Thermal Services (HTS) facility. The purpose of the sampling was to evaluate if a July 13th ash release had affected shallow soil. Shallow soil samples were collected from fifteen locations at two intervals -- less than 2 inches in depth, and 2 - 3 inches in depth. As ash sample (ELASH-01) was collected by HTS personnel. The samples were hand delivered to TestAmerica Laboratories in North Canton, Ohio for analysis of TAL metals plus tin and titanium (6010B, 7471A.). Soil sample results and reporting limits were reported on a dry weight basis. All results were reported to the standard reporting limit (RL).

Cox-Colvin received a data report from TestAmerica on August 7, 2013. Cox-Colvin reviewed and validated the analytical data for compliance with method quality control criteria following appropriate guidance outlined in the Ohio EPA Tier 1 Data Validation Manual (March 2012).

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

Data qualifiers determined during validation were recorded directly on the analytical data report and entered into the HTS project database. A general explanation of the QA discrepancies is provided below. For more information, see the appropriate section of the attached inorganic validation forms.

Because of poor matrix spike and matrix spike duplicate recoveries, certain nondetected antimony results were qualified "UJ" (nondetect, estimated detection limit), and certain lead, calcium, and titanium results were qualified "J-" (estimated, low bias). Because of poor matrix spike duplicate recoveries, certain results for barium, chromium, copper, lead, magnesium, potassium, and zinc conservatively were qualified "J--" (estimated, low bias).

No other QC discrepancies requiring data qualification were found in the analytical report. The analytical results, properly qualified, are valid and acceptable for their intended use.

Reviewer: Kathleen M. Sarver Date: August 7, 2013
Kathleen M. Sarver, CPG

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

INORGANIC DATA REVIEW

The general criteria used to determine the performance of the laboratory were based on an examination of:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Data Completeness | <input checked="" type="checkbox"/> Matrix Spike/Matrix Spike Duplicate |
| <input checked="" type="checkbox"/> Holding Times | <input checked="" type="checkbox"/> Laboratory Control Sample |
| <input type="checkbox"/> Calibrations | <input type="checkbox"/> Duplicate Precision |
| <input checked="" type="checkbox"/> Blank Analysis | <input type="checkbox"/> Serial Dilution |
| <input type="checkbox"/> Interference Check Sample | <input checked="" type="checkbox"/> Quantitation Limits |

I. DATA COMPLETENESS

All required data were provided by the laboratory. A signed statement from TestAmerica attests to the validity of the data. TestAmerica's sample receipt form indicated that the samples were received by the laboratory in good condition.

II. HOLDING TIMES

All samples were properly preserved. All samples were prepared and analyzed within recommended holding times.

SAMPLE ID	DATE SAMPLED	TOTAL METALS (6010B)	MERCURY (7471A)
ELASH-01	29JUL13 11:25	01-02AUG13 95626,	01AUG13 95636
ELSS-01.01	30JUL13 09:25	02AUG13 95626	01AUG 95636
ELSS-01.03	30JUL13 09:30	02AUG13 95626	01AUG 95636
ELSS-02.01	30JUL13 09:05	02AUG13 95626	01AUG 95636
ELSS-02.03	30JUL13 09:10	02AUG13 95626	01AUG 95636
ELSS-03.01	30JUL13 08:35	02AUG13 95626	01AUG 95636

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

SAMPLE ID	DATE SAMPLED	TOTAL METALS (6010B)	MERCURY (7471A)
ELSS-03.03	30JUL13 08:40	02AUG13 95626	01AUG 95636
ELSS-04.01	30JUL13 08:10	02AUG13 95626	01AUG 95636
ELSS-04.03	30JUL13 08:20	02AUG13 95626	01AUG 95636
ELSS-05.01	29JUL13 15:55	02AUG13 95626	01AUG 95636
ELSS-05.03	29JUL13 16:00	02AUG13 95626	01AUG 95636
ELSS-06.01	30JUL13 07:45	02AUG13 95626	01AUG 95636
ELSS-06.03	30JUL13 07:50	02AUG13 95626	01AUG 95636
ELSS-07.01	29JUL13 15:30	02AUG13 95626	01AUG 95636
ELSS-07.03	29JUL13 15:35	02AUG13 95626	01AUG 95636
ELSS-08.01	29JUL13 14:20	02AUG13 95626	01AUG 95636
ELSS-08.03	29JUL13 14:25	02AUG13 95626	01AUG 95636
ELSS-09.01	29JUL13 15:00	02AUG13 95626	01AUG 95636
ELSS-09.03	29JUL13 15:05	02AUG13 95626	01AUG 95636
ELSS-10.01	29JUL13 13:50	01AUG13 95654	01AUG 95664
ELSS-10.03	29JUL13 14:00	01AUG13 95654	01AUG 95664
ELSS-11.01	30JUL13 10:25	01AUG13 95654	01AUG 95664

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

SAMPLE ID	DATE SAMPLED	TOTAL METALS (6010B)	MERCURY (7471A)
ELSS-11.03	30JUL13 10:30	01AUG13 95654	01AUG 95664
ELSS-12.01	30JUL13 10:30	01AUG13 95654	01AUG 95664
ELSS-12.01	30JUL13 09:55	01AUG13 95654	01AUG 95664
ELSS-12.03	30JUL13 10:00	01AUG13 95626	01AUG 95636
ELSS-13.01	29JUL13 12:05	01-02AUG13 95654	01AUG 95664
ELSS-13.03	29JUL13 12:15	01AUG13 95654	01AUG 95664
ELSS-14.01	29JUL13 11:30	01-02AUG13 95654	01AUG 95664
ELSS-14.03	29JUL13 11:35	01AUG13 95654	01AUG 95664
ELSS-15.01	29JUL13 10:50	01AUG13 95654	01AUG 95664
ELSS-15.03	29JUL13 11:05	01AUG13 95654	01AUG 95664

Temperature = 2.2°C

III. BLANK ANALYSIS RESULTS

1. Laboratory Blanks

No compounds were detected in the laboratory method blanks.

2. Equipment Rinsate Blanks

No equipment rinsate blanks were collected.

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

IV. LABORATORY CONTROL SAMPLES (LCS)

All lab control sample (LCS) recoveries were within appropriate QC limits.

V. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD)

Project-specific samples ELSS-12.03 (metals, batch 95626; mercury, batch 95636), and ELSS-14.03 (metals, batch 95654; mercury, batch 95664) were used for MS/MSD analyses. All project-specific MS/MSD recoveries and RPDs were within QC limits, with the following exceptions:

SAMPLE	BATCH	COMPOUND	RECOVERY (LIMITS)	RESULTS QUALIFIED
ELSS-12.03 MS/MSD	95626	antimony	MS 34, MSD 31 (75 - 125)	ND, "UJ" ^a
ELSS-12.03 MS/MSD	95626	lead	MS 73, MSD 71 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	antimony	MS 34, MSD 28 (75 - 125)	ND, "UJ" ^a
ELSS-14.03 MS/MSD	95654	calcium	MS 72, MSD 65 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	titanium	MS 74, MSD 59 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	barium	MSD 74 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	chromium	MSD 64 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	copper	MSD 74 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	lead	MSD 72 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	magnesium	MSD 71 (75 - 125)	Det, "J." ^b
ELSS-14.03 MS/MSD	95654	potassium	MSD 72 (75 - 125)	Det, "J." ^b

Basic Data Quality Review	Site Name	HTS - East Liverpool
Data Review Worksheets		Ash Release Assessment

SAMPLE	BATCH	COMPOUND	RECOVERY (LIMITS)	RESULTS QUALIFIED
ELSS-14.03 MS/MSD	95654	zinc	MSD 71 (75 - 125)	Det, "J-" ^a

^aThis compound was not detected in the associated sample, and was qualified "UJ" (nondetect, estimated detection limit) because of poor MS/MSD recovery.

^bThis compound was detected in the associated sample, and was qualified "J-" (estimated, low bias) because of poor MS/MSD recovery.

^cThe associated MS recovery, MS/MSD RPD, and laboratory QC results were within QC limits. However, detection of this compound in the associated sample conservatively was qualified "J-^c" (estimated, low bias) because of slightly low MSD recovery.

VII. QUANTITATION

All samples met appropriate quantitation limits, accounting for dilution and other appropriate adjustments. All results were reported to the standard RL.

K:\CCA\PROJECTS\Heritage Thermal Systems\East Liverpool\Validation\Basic Validation 240-27379.wpd

